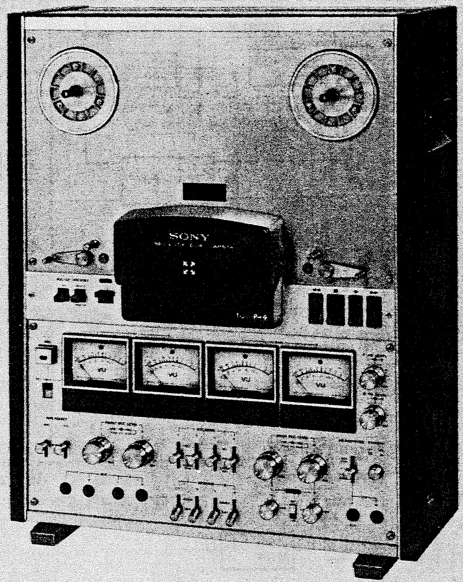
TC-788-4

Canada Model
USA Model



4-CHANNEL STEREO TAPECORDER

SPECIFICATIONS

Power Requirements: 120 V AC, 60 Hz, 120 W

Track System: Four-track four-channel stereo and monaural

Reels: 270 mm (10 1/2 inches) or smaller

Tape Speeds: 38 cm/s (15 ips), 19 cm/s (7 1/2 ips)

Recording Time: (with 3,600 ft. tape)
4-channel stereo recording:
90 minutes at 19 cm/s (7 1/2 ips)
2-channel stereo recording:
180 minutes at 19 cm/s (7 1/2 ips)

Frequency Response: According to NAB standards
(with SONY SLH tape)
20 ~ 35,000 Hz at 38 cm/s (15 ips)
20 ~ 28,000 Hz at 19 cm/s (7 1/2 ips)
(with normal tape)
20 ~ 30,000 Hz at 38 cm/s (15 ips)
20 ~ 23,000 Hz at 19 cm/s (7 1/2 ips)

Signal-to-Noise Ratio: 56 dB (with SONY SLH tape)
53 dB (with normal tape)

Wow and Flutter: 0.04 % (RMS) weighted at 38 cm/s (15 ips)
0.06 % (RMS) weighted at 19 cm/s (7 1/2 ips)

Harmonic Distortion: 1.2 %

Record Bias Frequency: Approximately 160 kHz

Inputs: MIC (4)
For low impedance microphone
Sensitivity: −72 dB (0.2 mV)
LINE IN (4)
Impedance: 100 kΩ
Sensitivity: −22 dB (0.06 V)

Outputs: LINE OUT (4)
Impedance: 100 kΩ
Normal level: − 5 dB (0.44 V) with 100 kΩ load
HEADPHONE
Impedance: 8 Ω
Normal level: − 25 dB (44 mV)

AC Outlet: Unswitched, 300 W maximum

Heads:
Record : RP138-2904
Playback : PP138-4204
Erase : EF137-2904

Motors:
Capstan : IC-624G (AC servo-controlled)
Reel : IC-638R (2)

Semiconductors: 13 ICs, 4 FETs, 103 transistors, 67 diodes

Dimensions: 440 (w) x 558 (h) x 221 (d) mm
17 3/8 (w) x 22 (h) x 8 3/4 (d) inches

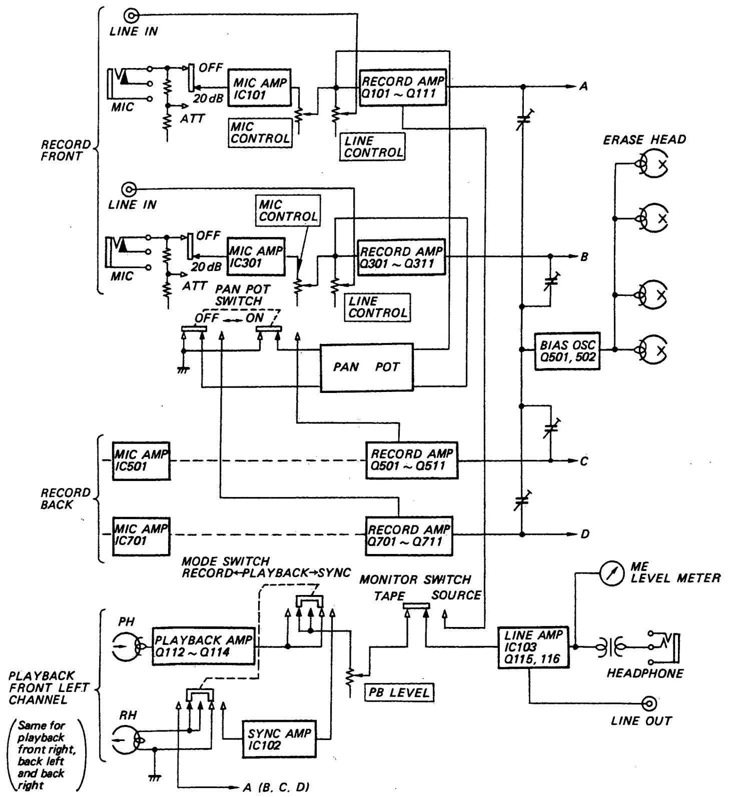
Weight: 26.5 kg, 58 lb 7 oz

SONY®

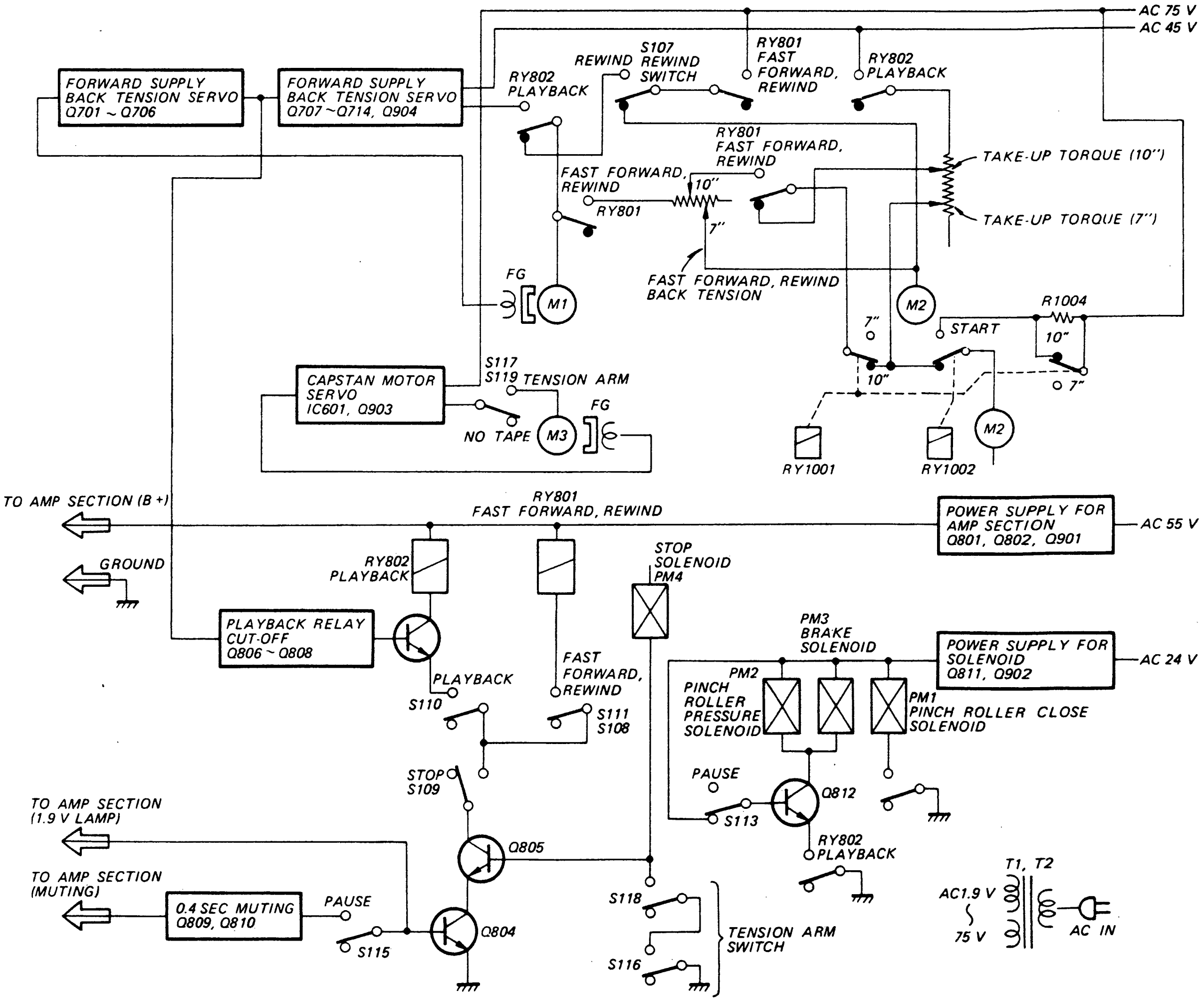
SERVICE MANUAL

1. BLOCK DIAGRAMS

Amplifier Section

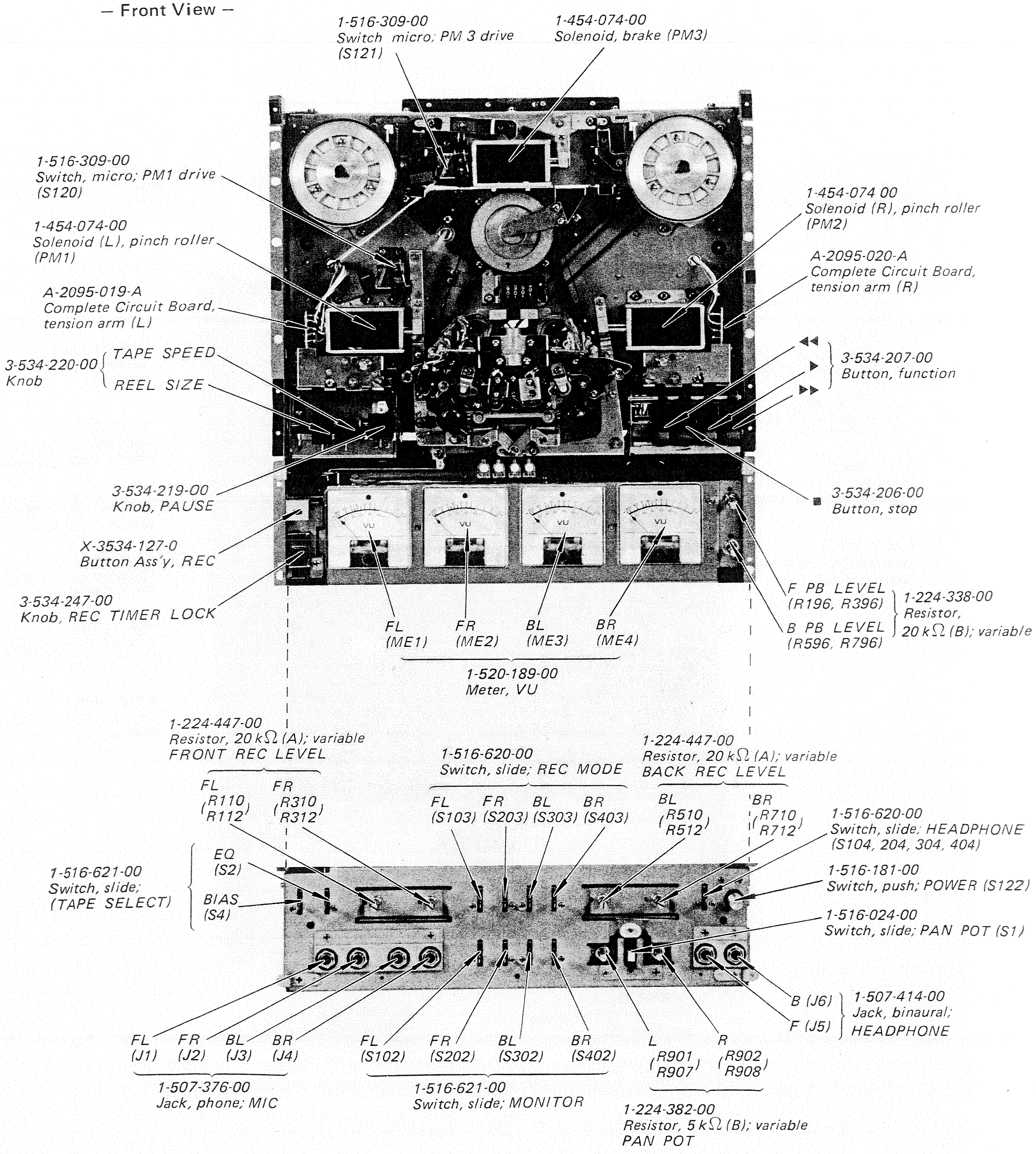

LINE IN
MIC
OFF
20dB
ATT
MIC AMP IC101
MIC CONTROL
RECORD AMP Q101 ~ Q111
LINE CONTROL
RECORD FRONT
A
ERASE HEAD
LINE IN
MIC
MIC CONTROL
MIC AMP IC301
RECORD AMP Q301 ~ Q311
B
PAN POT SWITCH
OFF ⟷ ON
LINE CONTROL
BIAS OSC Q501, 502
PAN POT
RECORD BACK
MIC AMP IC501
RECORD AMP Q501 ~ Q511
C
MIC AMP IC701
RECORD AMP Q701 ~ Q711
D
MODE SWITCH
RECORD⟷PLAYBACK→SYNC
MONITOR SWITCH
TAPE SOURCE
ME LEVEL METER
PH
PLAYBACK AMP Q112 ~ Q114
LINE AMP IC103 Q115, 116
HEADPHONE
PLAYBACK FRONT LEFT CHANNEL
PB LEVEL
RH
SYNC AMP IC102
LINE OUT
(Same for playback front right, back left and back right)
A (B, C, D)

System Control Section

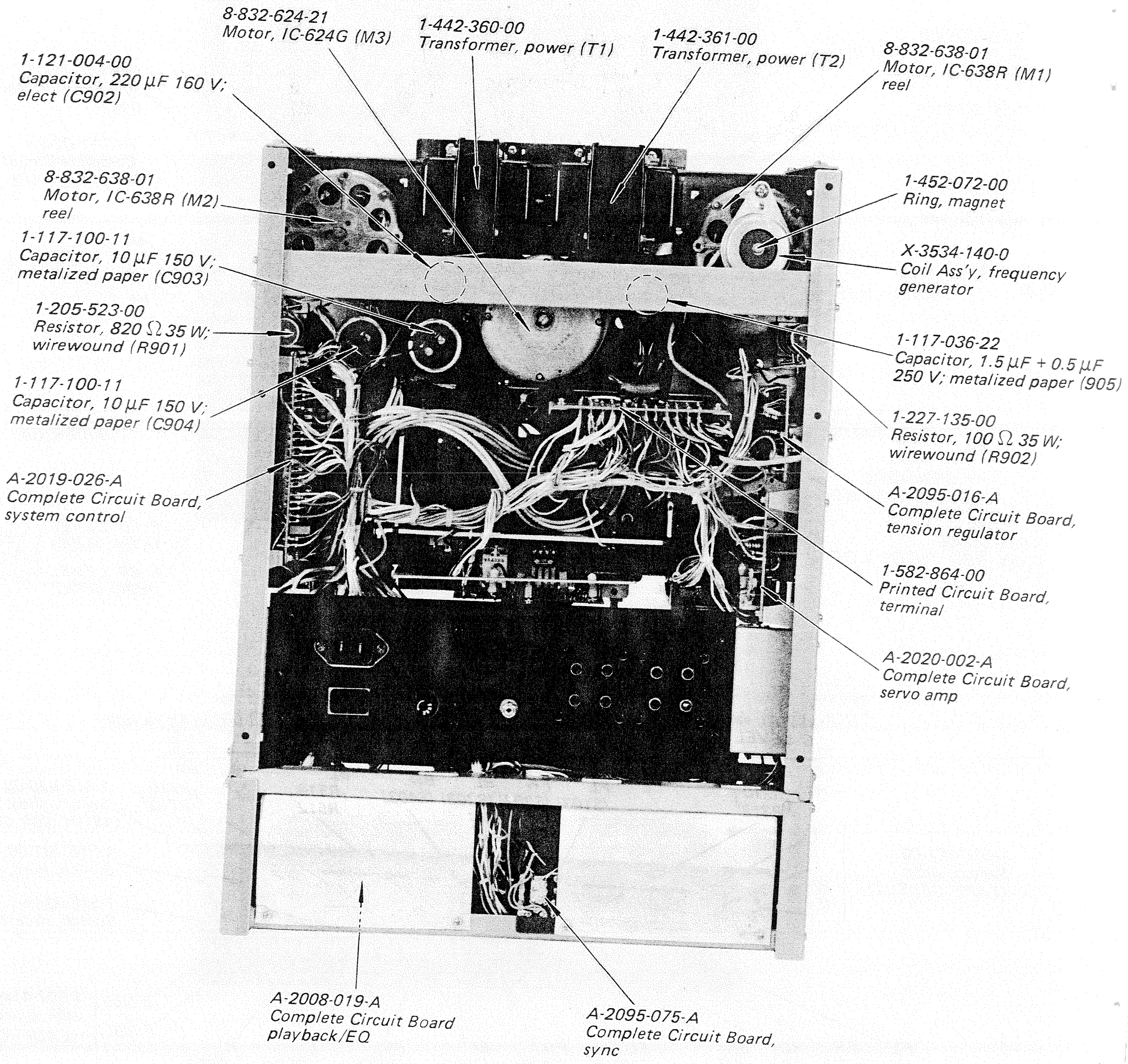

AC 75 V
AC 45 V
FORWARD SUPPLY BACK TENSION SERVO Q701 ~ Q706
FORWARD SUPPLY BACK TENSION SERVO Q707 ~ Q714, Q904
RY802 PLAYBACK
REWIND
S107 REWIND SWITCH
RY801 FAST FORWARD, REWIND
RY802 PLAYBACK
RY801 FAST FORWARD, REWIND
TAKE-UP TORQUE (10")
FAST FORWARD, REWIND
RY801
10"
7"
TAKE-UP TORQUE (7")
FG
M1
FAST FORWARD, REWIND BACK TENSION
M2
R1004
7"
START
10"
10"
o 7"
CAPSTAN MOTOR SERVO IC601, Q903
S117
S119 TENSION ARM
FG
NO TAPE
M3
RY1001
RY1002
M2
TO AMP SECTION (B +)
RY801 FAST FORWARD, REWIND
POWER SUPPLY FOR AMP SECTION Q801, Q802, Q901
AC 55 V
GROUND
RY802 PLAYBACK
STOP SOLENOID PM4
PLAYBACK RELAY CUT-OFF Q806 ~ Q808
PM3 BRAKE SOLENOID
POWER SUPPLY FOR SOLENOID Q811, Q902
AC 24 V
PLAYBACK
FAST FORWARD, REWIND
PM2 PINCH ROLLER PRESSURE SOLENOID
PM1 PINCH ROLLER CLOSE SOLENOID
S110
S111
S108
STOP
S109
PAUSE
Q812
S113
TO AMP SECTION (1.9 V LAMP)
RY802 PLAYBACK
Q805
T1, T2
TO AMP SECTION (MUTING)
0.4 SEC MUTING Q809, Q810
PAUSE
S115
Q804
S118
S116
TENSION ARM SWITCH
AC1.9 V ~ 75 V
AC IN

2. INTERNAL VIEWS

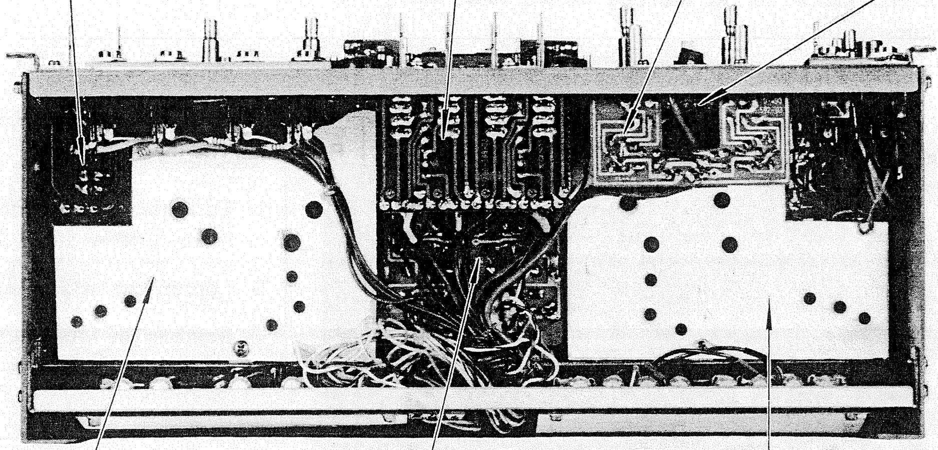
— Front View —


1-516-309-00
Switch micro; PM 3 drive
(S121)
1-454-074-00
Solenoid, brake (PM3)
1-516-309-00
Switch, micro; PM1 drive
(S120)
1-454-074-00
Solenoid (L), pinch roller
(PM1)
A-2095-019-A
Complete Circuit Board,
tension arm (L)
3-534-220-00
Knob
TAPE SPEED
REEL SIZE
1-454-074 00
Solenoid (R), pinch roller
(PM2)
A-2095-020-A
Complete Circuit Board,
tension arm (R)
◀◀
▶
▶▶
3-534-207-00
Button, function
■
3-534-206-00
Button, stop
3-534-219-00
Knob, PAUSE
X-3534-127-0
Button Ass'y, REC
3-534-247-00
Knob, REC TIMER LOCK
VU
FL (ME1)
FR (ME2)
BL (ME3)
BR (ME4)
1-520-189-00
Meter, VU
F PB LEVEL (R196, R396)
B PB LEVEL (R596, R796)
1-224-338-00
Resistor,
20 kΩ (B); variable
1-224-447-00
Resistor, 20 kΩ (A); variable
FRONT REC LEVEL
FL (R110, R112)
FR (R310, R312)
1-516-620-00
Switch, slide; REC MODE
FL (S103)
FR (S203)
BL (S303)
BR (S403)
1-224-447-00
Resistor, 20 kΩ (A); variable
BACK REC LEVEL
BL (R510, R512)
BR (R710, R712)
1-516-620-00
Switch, slide; HEADPHONE
(S104, 204, 304, 404)
1-516-621-00
Switch, slide;
(TAPE SELECT)
EQ (S2)
BIAS (S4)
1-516-181-00
Switch, push; POWER (S122)
1-516-024-00
Switch, slide; PAN POT (S1)
B (J6)
F (J5)
1-507-414-00
Jack, binaural;
HEADPHONE
FL (J1)
FR (J2)
BL (J3)
BR (J4)
1-507-376-00
Jack, phone; MIC
FL (S102)
FR (S202)
BL (S302)
BR (S402)
1-516-621-00
Switch, slide; MONITOR
L (R901, R907)
R (R902, R908)
1-224-382-00
Resistor, 5 kΩ (B); variable
PAN POT

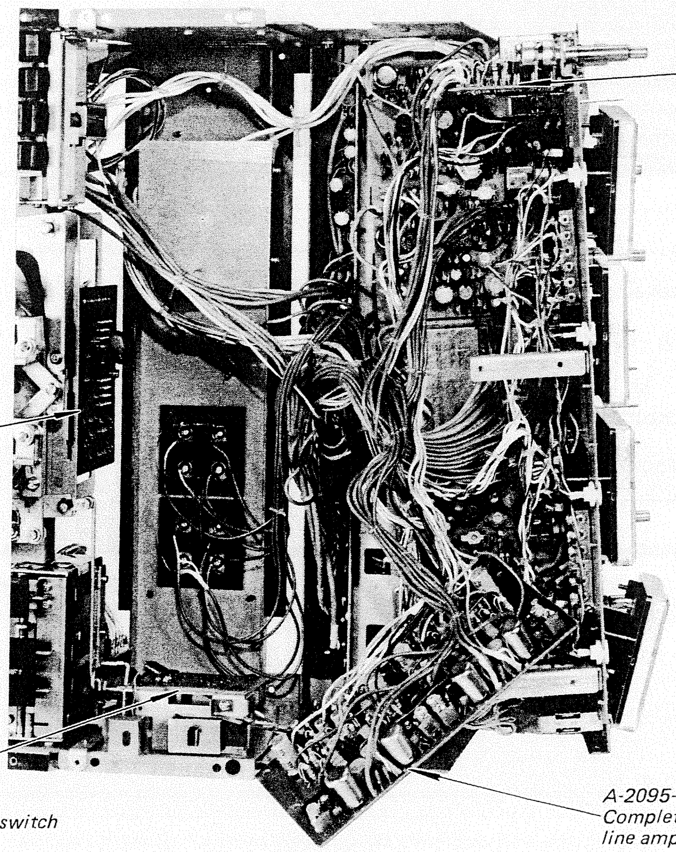
— Rear View —


8-832-624-21
Motor, IC-624G (M3)
1-442-360-00
Transformer, power (T1)
1-442-361-00
Transformer, power (T2)
8-832-638-01
Motor, IC-638R (M1)
reel
1-121-004-00
Capacitor, 220 µF 160 V;
elect (C902)
8-832-638-01
Motor, IC-638R (M2)
reel
1-117-100-11
Capacitor, 10 µF 150 V;
metalized paper (C903)
1-205-523-00
Resistor, 820 Ω 35 W;
wirewound (R901)
1-117-100-11
Capacitor, 10 µF 150 V;
metalized paper (C904)
A-2019-026-A
Complete Circuit Board,
system control
1-452-072-00
Ring, magnet
X-3534-140-0
Coil Ass'y, frequency
generator
1-117-036-22
Capacitor, 1.5 µF + 0.5 µF
250 V; metalized paper (905)
1-227-135-00
Resistor, 100 Ω 35 W;
wirewound (R902)
A-2095-016-A
Complete Circuit Board,
tension regulator
1-582-864-00
Printed Circuit Board,
terminal
A-2020-002-A
Complete Circuit Board,
servo amp
A-2008-019-A
Complete Circuit Board
playback/EQ
A-2095-075-A
Complete Circuit Board,
sync

– Bottom View –


A-2023-054-A
Complete Circuit Board tape select switch
A-2023-056-A
Complete Circuit Board, monitor switch
A-2095-074-A
Complete Circuit Board, PAN POT
A-2023-057-A
Complete Circuit Board, PAN POT switch
A-2006-021-A
Complete Circuit Board, record amp (front)
A-2014-022-A
Complete Circuit Board, bias osc
A-2006-022-A
Complete Circuit Board, record amp (back)

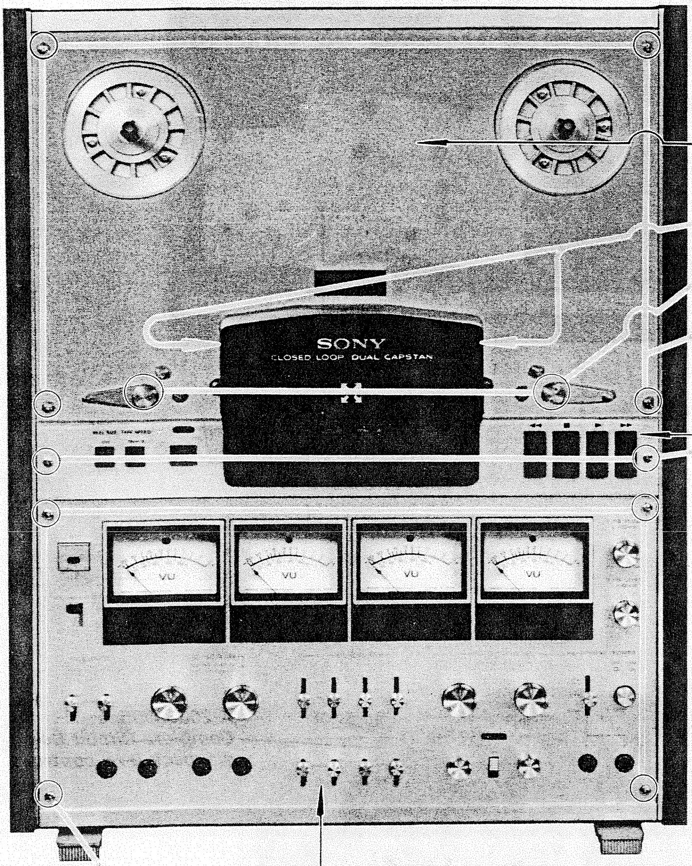
– Front View – with amp chassis removed


A-2023-005-A
Complete Circuit Board playback level control
A-2095-071-A
Complete Circuit Board, torque
A-2023-058-A
Complete Circuit Board; record switch
A-2095-073-A
Complete Circuit Board, line amp

3. DISASSEMBLY

Cabinet Removal

Remove six screws on the rear and six screws on the both sides of the cabinet.



Reel Panel Removal

1. Turn the nuts counterclockwise by using a pin-fase nut-driver and remove the tension arm.
2. Loosen the setscrews and remove the head cover.
3. Remove the four screws RK 3 x 8.

Control Panel Removal

Remove the two screws B 3 x 6.

Note: The control panel is removed along with the lower head-cover.

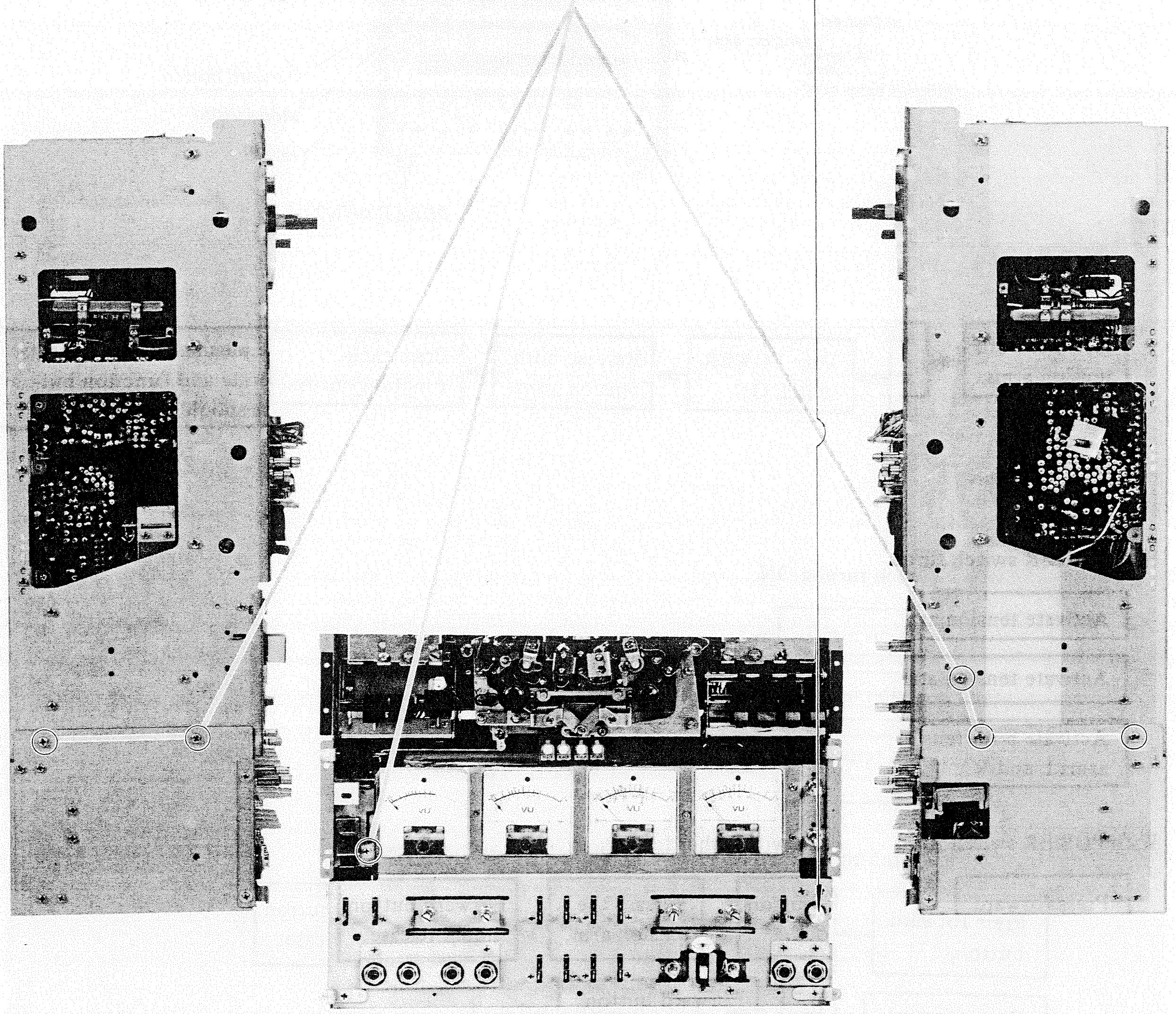
Amp Panel Removal

1. Remove each control knob by loosening the setscrew.
2. Pull off the knob of each lever switch.
3. Remove the four screws RK 3 x 8.

Amp Chassis Removal

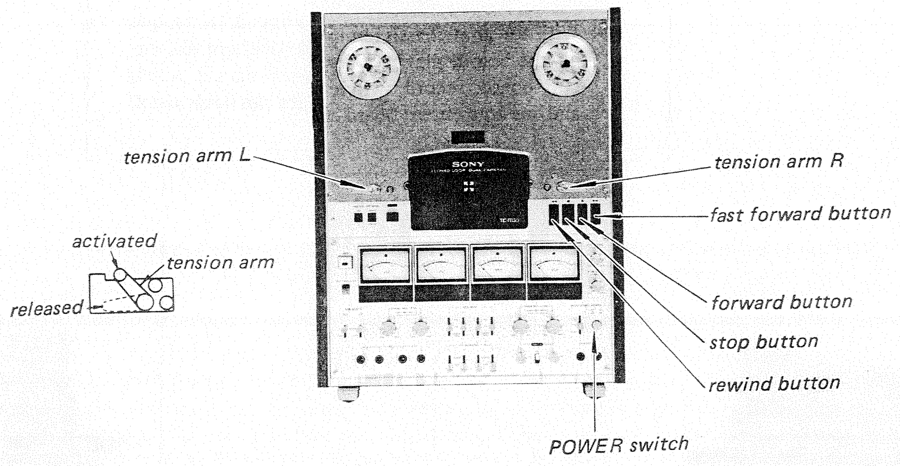
Remove the six screws PS 3 x 6.

Note: With the amp chassis removed, the torque circuit board, playback level control circuit board, record switch circuit board, and line amp circuit board can be checked.

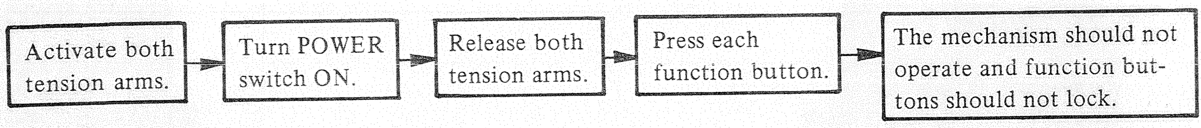


4. MECHANICAL ADJUSTMENTS

Function Switch Check

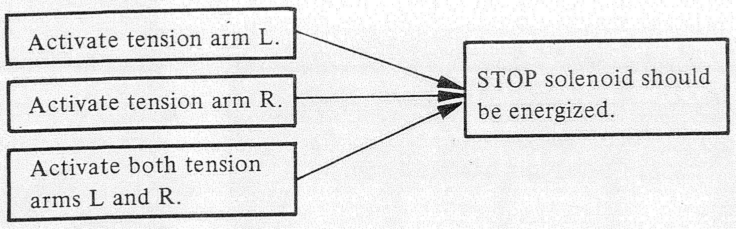

tension arm L
activated
tension arm
released
tension arm R
fast forward button
forward button
stop button
rewind button
POWER switch

1.



Activate both tension arms. → Turn POWER switch ON. → Release both tension arms. → Press each function button. → The mechanism should not operate and function buttons should not lock.

2. With POWER switch turned ON.

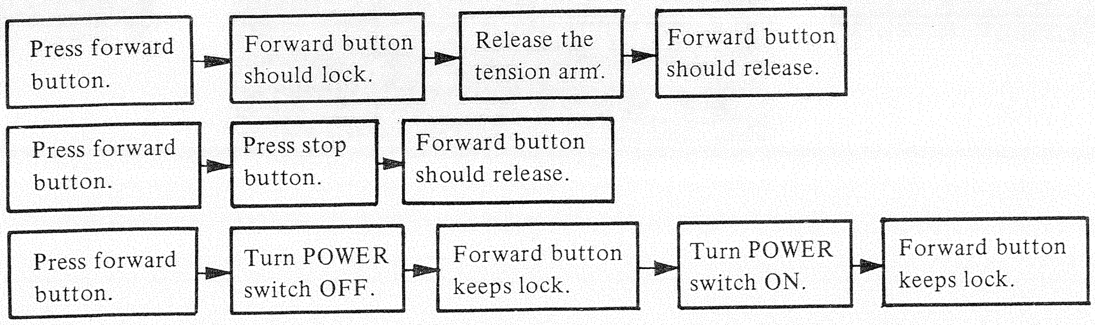


Activate tension arm L. → STOP solenoid should be energized.

Activate tension arm R. → STOP solenoid should be energized.

Activate both tension arms L and R. → STOP solenoid should be energized.

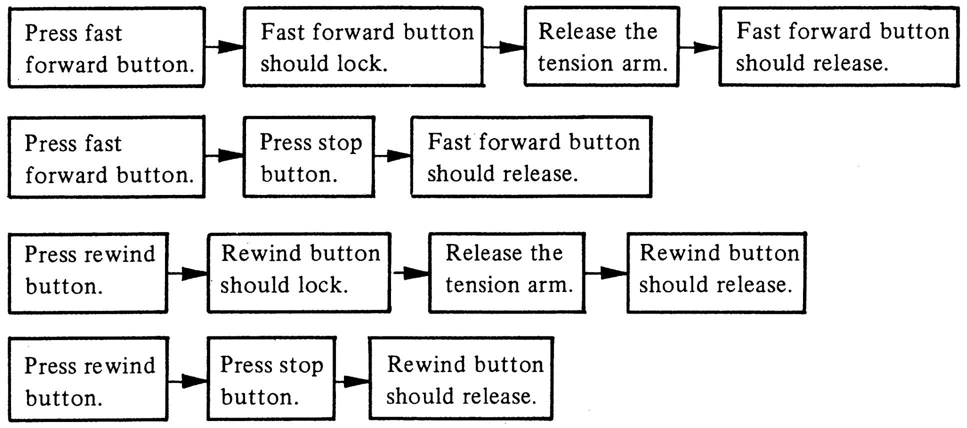
3. With POWER switch turned ON and with either tension arm activated.



Press forward button. → Forward button should lock. → Release the tension arm. → Forward button should release.

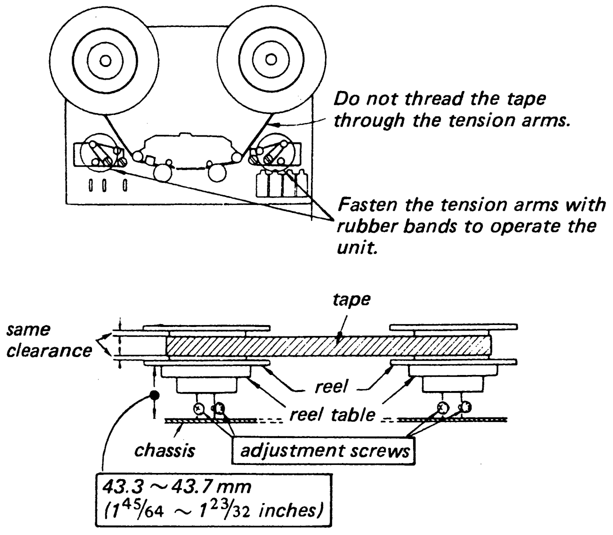
Press forward button. → Press stop button. → Forward button should release.

Press forward button. → Turn POWER switch OFF. → Forward button keeps lock. → Turn POWER switch ON. → Forward button keeps lock.


Press fast forward button. → Fast forward button should lock. → Release the tension arm. → Fast forward button should release.
Press fast forward button. → Press stop button. → Fast forward button should release.
Press rewind button. → Rewind button should lock. → Release the tension arm. → Rewind button should release.
Press rewind button. → Press stop button. → Rewind button should release.

MEMO

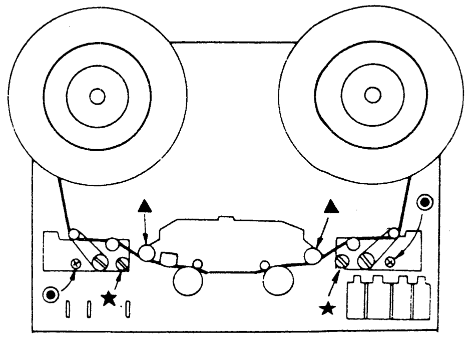
Reel Table Height Adjustment
– Playback, Fast Forward, Rewind Modes –


Do not thread the tape through the tension arms.
Fasten the tension arms with rubber bands to operate the unit.
tape
same clearance
reel
reel table
chassis
adjustment screws
43.3 ~ 43.7 mm
(1 45/64 ~ 1 23/32 inches)

If necessary, loosen the adjustment screws and adjust the reel table height.

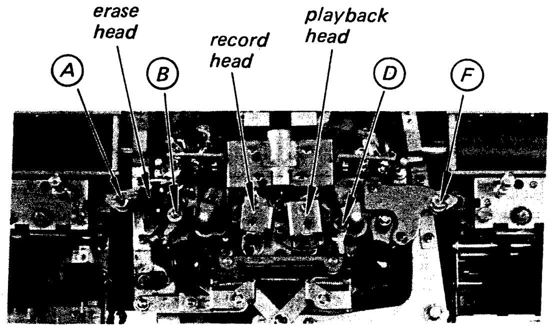
Tape Guides Adjustment (1)

1. Thread the tape from a 180 mm (7 inches) plastic reel as shown.
2. Turn the two screws indicated by ★ counterclockwise until it stops, and then turn them clockwise 2½ turns.
3. Turn the two screws indicated by ◉ so that the tape travels in the center of both reel flanges in rewind and fast forward modes.
4. Turn the two tape-guide screws indicated by ▲ for fine adjustment, so that the tape travels in the center of the guides without tape curl in forward playback mode.
5. When the tape curls, repeat the above steps.
6. After adjustment, lock the screws indicated by ◉ with locking compound.



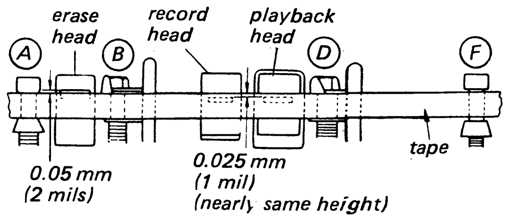
Tape Guide Adjustment (2)
– Playback Mode –

1. Make sure that tape does not curl at tape guides Ⓐ, Ⓑ, Ⓓ and Ⓕ.


erase head
record head
playback head
Ⓐ
Ⓑ
Ⓓ
Ⓕ

If tape curls, perform the reel table height adjustment and the tape guide adjustment (1), and then adjust the tape guides Ⓐ, Ⓑ and Ⓕ relative to tape guide Ⓓ.

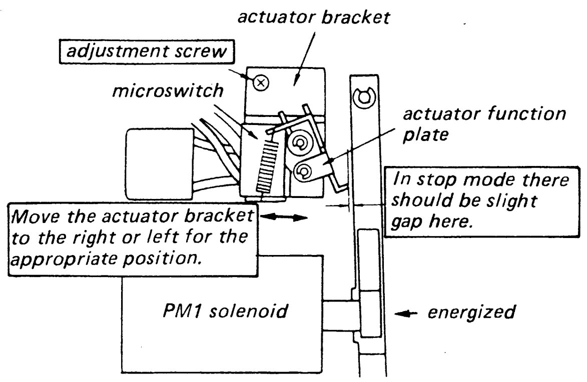
2. Make sure that the head height is as shown.


erase head
record head
playback head
Ⓐ
Ⓑ
Ⓓ
Ⓕ
tape
0.05 mm
(2 mils)
0.025 mm
(1 mil)
(nearly same height)

Note: If all the tape guides and the heads are not correctly positioned, adjust them so that the tape travels at the middle of the pinch roller rim.

Actuator Adjustment (1)

Perform this adjustment after the Pinch Roller (L) Solenoid (PM1) Position Adjustment. After the adjustment, apply locking compound to the adjusted screw.


actuator bracket
adjustment screw
microswitch
actuator function plate
PM1 solenoid
energized

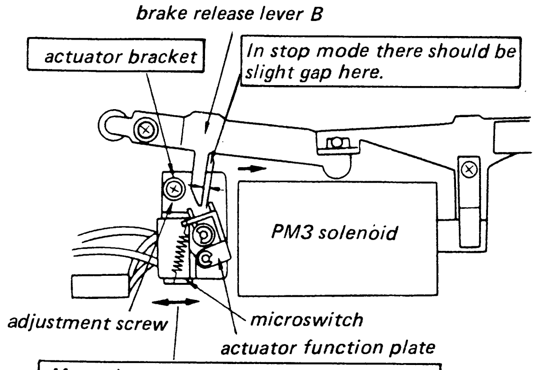
In stop mode there should be slight gap here.

Move the actuator bracket to the right or left for the appropriate position.

Note: The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

Actuator Adjustment (2)

Perform this adjustment after the Brake Adjustments (1) and (2). After the adjustment, apply locking compound to the adjusted screw.

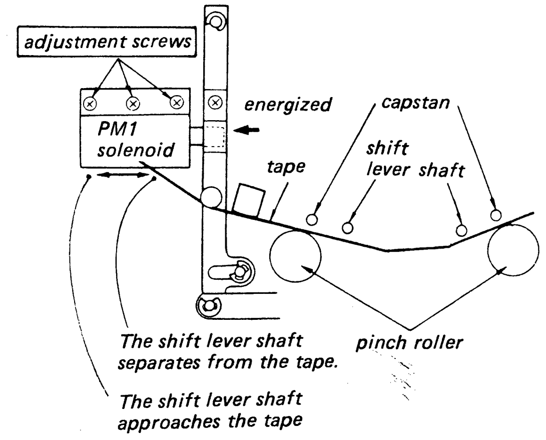

brake release lever B
actuator bracket
PM3 solenoid
adjustment screw
microswitch
actuator function plate

In stop mode there should be slight gap here.

Move the actuator bracket to the right or left for the appropriate position.

Note: The microswitch should turn OFF (click) in 0.5 to 2 seconds after forward button is pushed.

Pinch Roller (L) Solenoid (PM1) Position Adjustment


adjustment screws
PM1 solenoid
energized
capstan
shift lever shaft
tape
pinch roller

The shift lever shaft separates from the tape.

The shift lever shaft approaches the tape

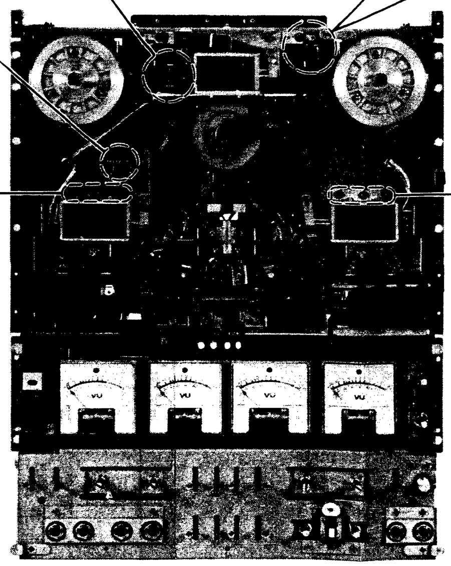
– Playback Mode –

With PAUSE lever depressed:

The shift lever shaft should not contact the tape and also the pinch rollers should separate from the capstans.

If necessary, loosen the adjustment screws and adjust the solenoid position.

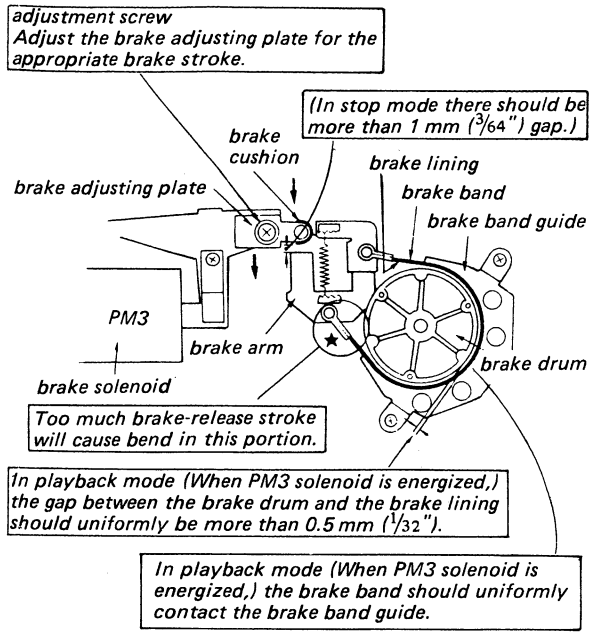
After the adjustment, apply locking compound to the adjusted screws.



Brake Adjustment (1)

Perform this adjustment for both left and right brakes. After the adjustment, apply locking compound to the adjusted screw.

– Playback Mode –


brake cushion
brake lining
brake band
brake band guide
brake adjusting plate
PM3
brake arm
brake drum
brake solenoid

adjustment screw
Adjust the brake adjusting plate for the appropriate brake stroke.

(In stop mode there should be more than 1 mm (3/64") gap.)

Too much brake-release stroke will cause bend in this portion.

In playback mode (When PM3 solenoid is energized,) the gap between the brake drum and the brake lining should uniformly be more than 0.5 mm (1/32").

In playback mode (When PM3 solenoid is energized,) the brake band should uniformly contact the brake band guide.

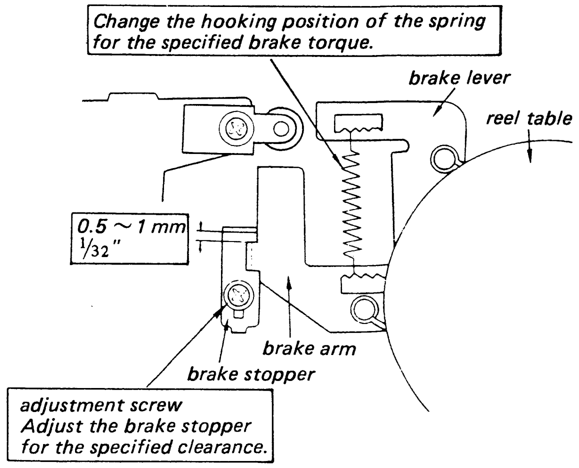
Brake Adjustment (2)

Perform this adjustment for both left and right brakes. After the adjustment, apply locking compound to the adjusted screw.

Specification:

Take-up Reel	Supply Reel	Brake Torque
clockwise	counterclockwise	1,800 ~ 2,500 g·cm (25.1 ~ 34.8 oz·inch)
counterclockwise	clockwise	600 ~ 700 g·cm (8.3 ~ 9.7 oz·inch)

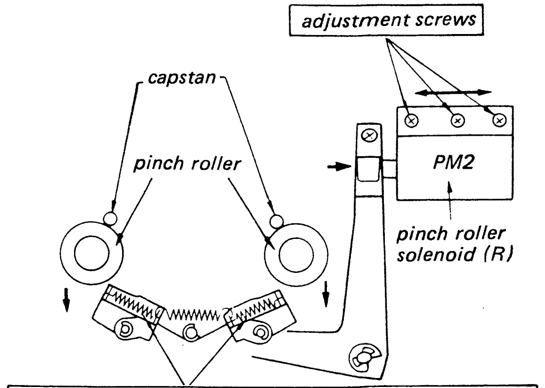
– Stop Mode –


brake lever
reel table
0.5 ~ 1 mm
1/32"
brake arm
brake stopper

Change the hooking position of the spring for the specified brake torque.

adjustment screw
Adjust the brake stopper for the specified clearance.

Pinch Roller (R) Solenoid (PM2) Position Adjustment


adjustment screws
capstan
pinch roller
PM2
pinch roller solenoid (R)

These two springs should expand 0.3 ~ 0.5 mm (1/64") longer after the pinch rollers contact the capstans in playback mode. If necessary, adjust the PM2 solenoid position.

Specification as a reference:

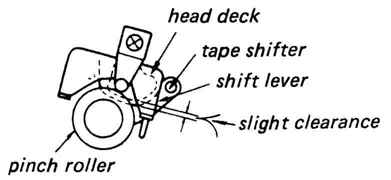
Pinch roller pressure: 1000 g ~ 1600 g
(2 lb 3 oz ~ 3 lb 8 oz)

After the adjustment, apply locking compound to the adjusted screws.

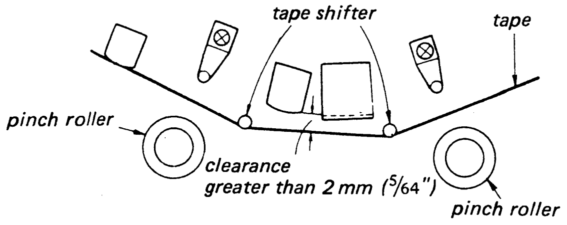
Tape Shifter Position Check

Perform this check for both left and right tape shifter in the horizontal operation.

1. – Playback Mode –

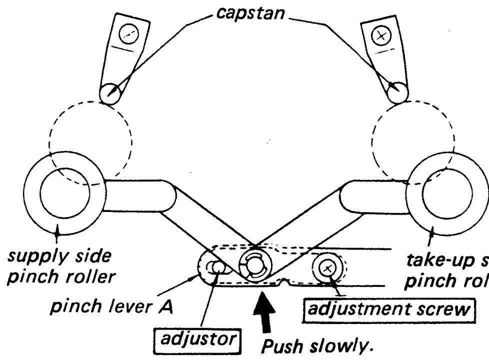

head deck
tape shifter
shift lever
slight clearance
pinch roller

2. – Fast Forward and Rewind Modes – at the end of tape


tape shifter
tape
pinch roller
clearance
greater than 2 mm (5/64")
pinch roller

Adjustor Adjustment
– Playback Mode –

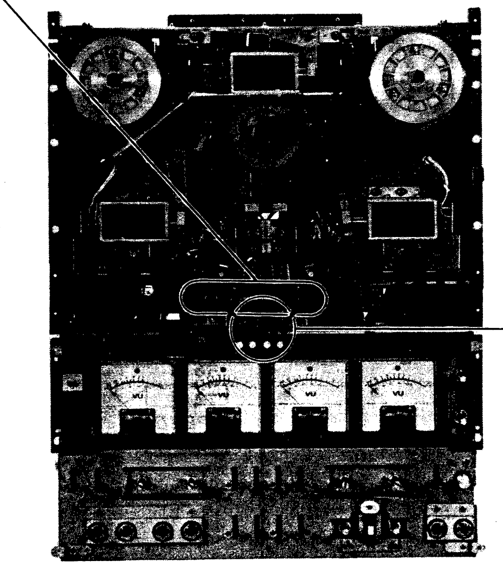
With PAUSE button depressed:


capstan
supply side
pinch roller
take-up side
pinch roller
pinch lever A
adjustor
adjustment screw
Push slowly.

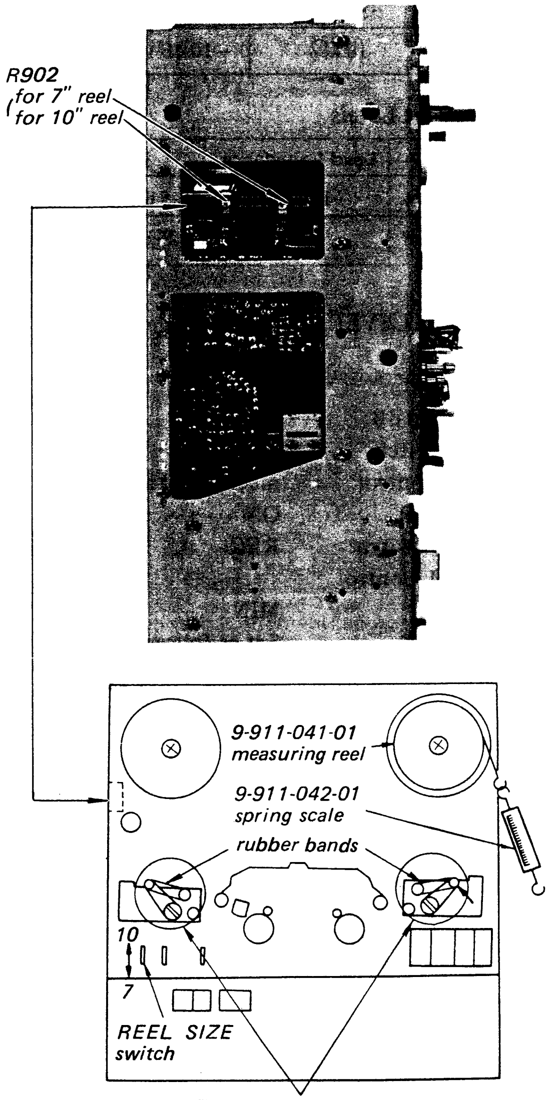
Adjustment	Pinch roller-to-capstan contact	Remarks
correct	Take-up side is a little later than supply side.	Within 0.5 mm (1/64") clearance on take-up side just when supply side begins to contact.
correct	Both sides are in simultaneous contact.	
wrong	Supply side is later than take-up side.	

Adjustment:

Loosen the adjustment screw and adjust by sliding the adjustor to the left or the right.



Playback Take-up Torque Adjustment


R902
(for 7" reel
for 10" reel)
9-911-041-01
measuring reel
9-911-042-01
spring scale
rubber bands
10
7
REEL SIZE
switch

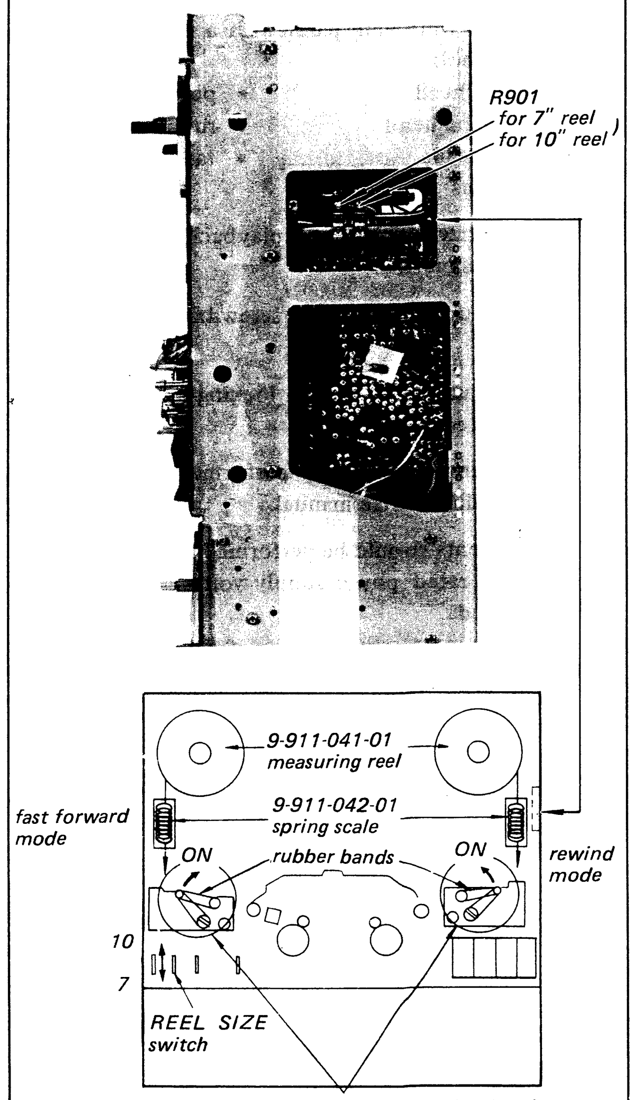
Fasten the tension arms with rubber bands to operate the unit.

Specification:

REEL SIZE switch	Take-up Torque
10	580 to 620 g-cm (8.05 to 8.61 oz-inch)
7	280 to 320 g-cm (3.89 to 4.45 oz-inch)

If necessary, adjust the torque by moving the sliders of the adjustable resistor (R902).

Fast Forward and Rewind Back-Tension Adjustment


R901
(for 7" reel
for 10" reel)
9-911-041-01
measuring reel
9-911-042-01
spring scale
fast forward
mode
ON
rubber bands
ON
rewind
mode
10
7
REEL SIZE
switch

Fasten the tension arms with rubber bands to operate the unit.

Specification:

Mode	REEL SIZE switch	Back-Tension Torque
rewind	10	110 to 140 g-cm (1.53 to 1.95 oz-inch)
	7	80 to 100 g-cm (1.11 to 1.39 oz-inch)
fast forward	10	110 to 140 g-cm (1.53 to 1.95 oz-inch)
	7	80 to 100 g-cm (1.11 to 1.39 oz-inch)

If necessary, adjust the torque by moving the sliders of the adjustable resistor (R901).

5. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a swab moistened with alcohol:
   - * record head
   - * playback head
   - * erase heads
   - * capstans
   - * pinch rollers
   - * rubber belts
   - * tape guides
2. Demagnetize record and playback heads with a head demagnetizer.
3. Do not use magnetized screwdriver for adjustments.
4. After adjustments, apply locking compounds to the adjusted parts.
5. Adjustments should be performed in the order listed in this service manual.
6. Adjustments should be performed for each channel with the rated power supply voltage unless otherwise noted.
7. Unless otherwise noted, switches and controls should be set as follows:

REEL SIZE switch:	7
TAPE SPEED switch:	19 cm, 7½
PAUSE lever:	released
TAPE SELECT switch:	BIAS: LOW EQ: SPECIAL
REC TIMER LOCK lever:	released
PULL ATT 20 dB:	not pulled
MONITOR switch:	TAPE
PB LEVEL control:	mechanical mid
PAN POT switch:	OFF
POWER switch:	ON

8. **Sony Test Tapes**

J-19-F2

Tone	1st	2nd	3rd	4th	5th	6th	7th
Frequency (Hz)	400	400	10 k	12.5 k	7 k	80	40
Level (dB)	0	−10	−10	−10	−10	−10	−10

SPC-47 (4 kHz, 0 dB)
blank tapes (completely erased)
NPS-1 (for NORMAL record)
SLH-S1 (for SPECIAL record)

9. **Normal Input Levels**

	Impedance	Level
MIC	300 Ω	−60 dB (0.77 mV)
LINE IN	10 kΩ	−10 dB (0.25 V)

10. **Normal Output Levels**

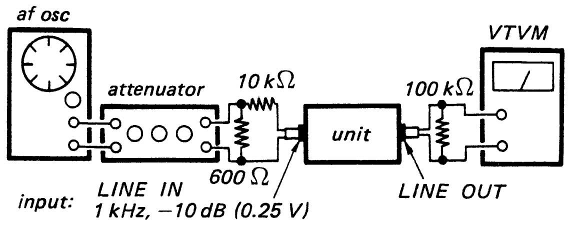
	Load Impedance	Level
LINE OUT	100 kΩ	−5 dB (0.44 V)
HEADPHONES	8 Ω	−25 dB (44 mV)

11. **Normal REC LEVEL Control Setting**

Settings:

PULL ATT 20 dB:	not pulled
MONITOR switch:	SOURCE
PB LEVEL control:	mechanical mid
POWER switch:	ON
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	Set as follows:

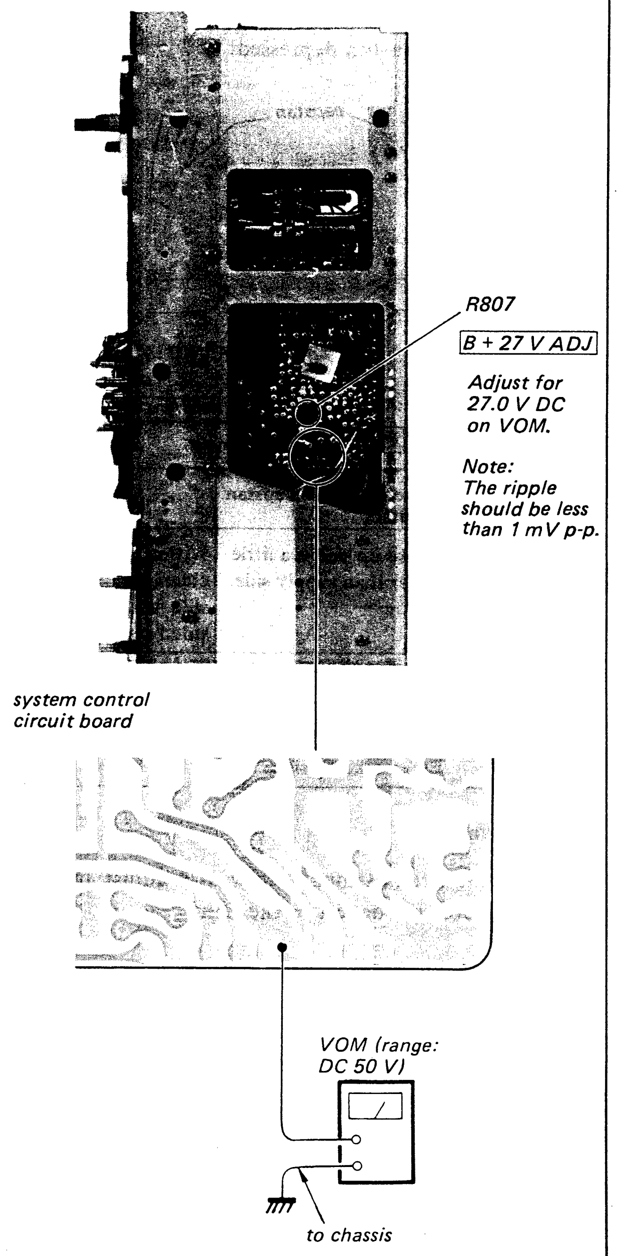
Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
100 kΩ
VTVM
LINE IN
LINE OUT

input: 1 kHz, −10 dB (0.25 V)

Set LINE REC LEVEL control for −5 dB (0.44 V) VTVM reading.
If VU meters are correctly calibrated, set LINE REC LEVEL control for 0 VU on the VU meter.

1. B + 27 V Adjustment


R807
B + 27 V ADJ
system control circuit board
VOM (range: DC 50 V)
to chassis

Adjust for 27.0 V DC on VOM.

Note: The ripple should be less than 1 mV p-p.

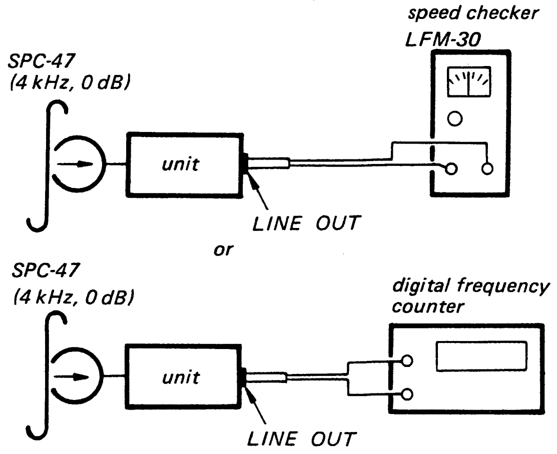
2. Tape Speed Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15 and 19 cm, 7½
REC MODE switch:	PB

Procedure:

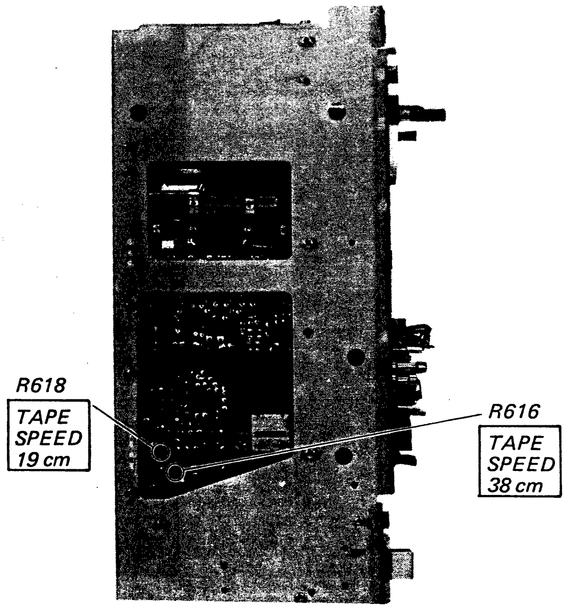
Mode: playback


SPC-47 (4 kHz, 0 dB)
unit
LINE OUT
speed checker LFM-30
or
SPC-47 (4 kHz, 0 dB)
unit
LINE OUT
digital frequency counter

TAPE SPEED switch	Adjust	Speed checker reading	Digital freq. counter reading
38 cm, 15	R616	−0.5 ~ +0.5 %	7,960 ~ 8,040 Hz
19 cm, 7½	R618	−1.0 ~ +1.0 %	3,960 ~ 4,040 Hz

Note: Difference between readings at the beginning and the end of tape:
within 40 Hz at 38 cm/s, 15 ips
within 40 Hz at 19 cm/s, 7½ ips

Adjustment Location:


R618
TAPE SPEED 19 cm
R616
TAPE SPEED 38 cm

3. VU Meter Calibration

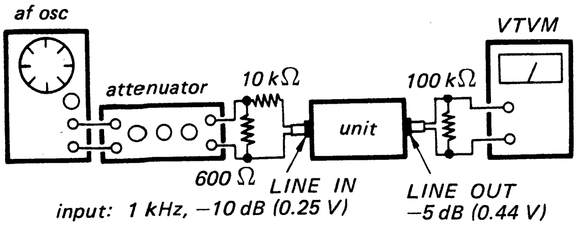
Settings:

MONITOR switch: SOURCE
REC MODE switch: REC

Procedure:

1. Calibrate the VU meters for 0 % indication with POWER switch OFF.
2. Mode: record

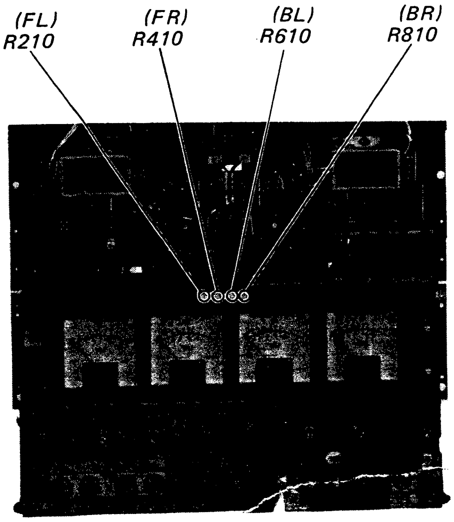
Adjust LINE REC LEVEL control for −5 dB (0.44 V) VTVM reading.


af osc
VTVM
attenuator
10 kΩ
100 kΩ
unit
600 Ω
LINE IN
LINE OUT
input: 1 kHz, −10 dB (0.25 V)
−5 dB (0.44 V)

3.

Channel	Adjust	Remarks
FRONT-L	R210	Adjust for 0 VU on VU meter.
FRONT-R	R410	
BACK-L	R610	
BACK-R	R810	

Adjustment Location:


(FL) R210
(FR) R410
(BL) R610
(BR) R810

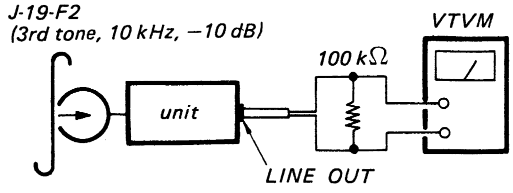
4. Playback Head Angle Adjustment

Settings:

REC MODE switch: PB

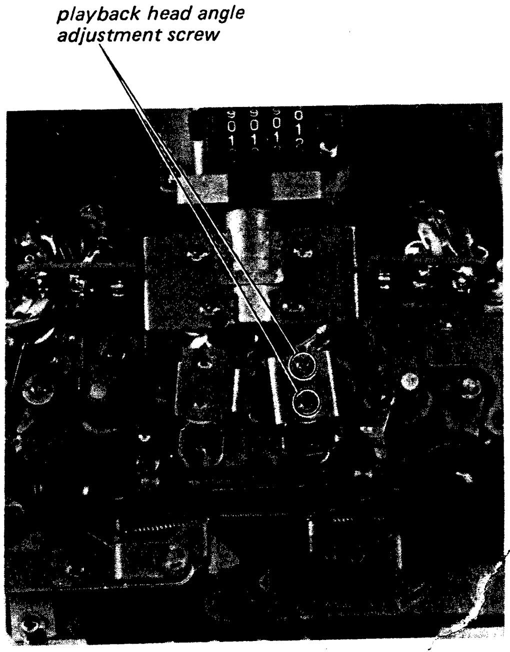
Procedure:

Mode: playback


J-19-F2
(3rd tone, 10 kHz, −10 dB)
VTVM
100 kΩ
unit
LINE OUT

Loosen the adjustment screws and adjust the playback head position for maximum VTVM reading.

Note: When slightly touching the supply reel, the output level should not drop more than 1 dB.


playback head angle adjustment screw

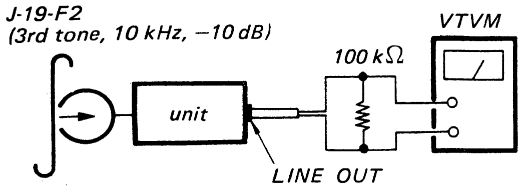
5. Playback Head Azimuth Adjustment

Settings:

REC MODE switch: PB

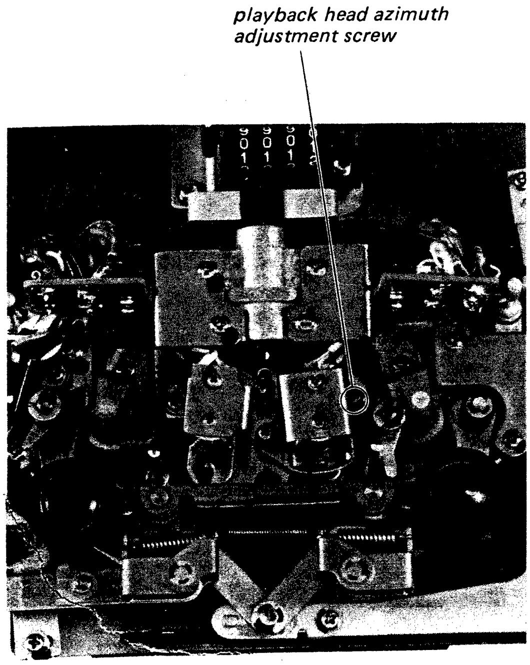
Procedure:

Mode: playback


J-19-F2
(3rd tone, 10 kHz, −10 dB)
VTVM
100 kΩ
unit
LINE OUT

Adjust the adjustment screw for maximum VTVM reading.

Note: If the maximum readings for all the channels can not be obtained at the same screw position, set the screw at the mid between both extreme positions of the screw.


playback head azimuth adjustment screw

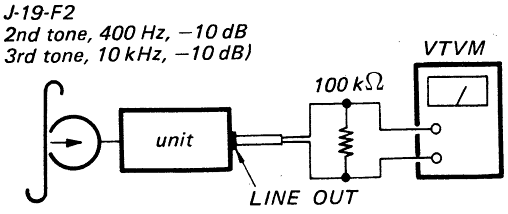
6. Playback Equalizer Adjustment

Settings:

TAPE SELECT (EQ) switch: NORMAL
REC MODE switch: PB

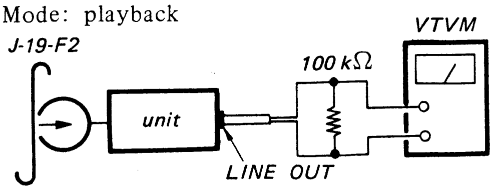
Procedure:

1. Mode: playback

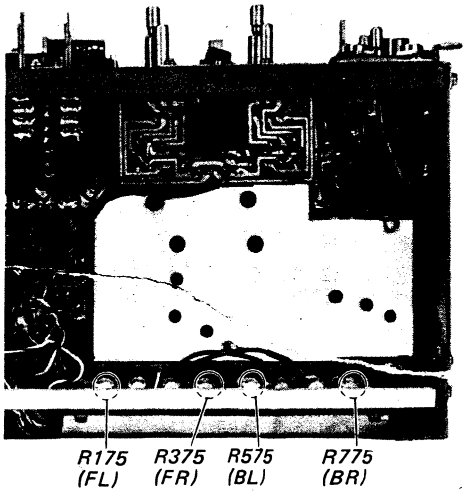

J-19-F2
2nd tone, 400 Hz, −10 dB
3rd tone, 10 kHz, −10 dB)
VTVM
100 kΩ
unit
LINE OUT

Playback	Adjust	Remarks
2nd tone 400 Hz	————————	Memorize VTVM reading.
3rd tone 10 kHz	R175 (FRONT-L) R375 (FRONT-R) R575 (BACK-L) R775 (BACK-R)	Adjust for the same VTVM reading as 400 Hz playback level.

2. Check the following:
Mode: playback


VTVM
J-19-F2
100 kΩ
unit
LINE OUT

Playback	Frequency	Level deviation
2nd tone	400 Hz	0 dB (reference)
3rd tone	10 kHz	0 ± 1.0 dB
4th tone	12.5 kHz	– 0.5 ± 1.5 dB
5th tone	7 kHz	0 ± 1.5 dB
6th tone	80 Hz	+ 2.0 ± 2.0 dB
7th tone	40 Hz	+ 2.5 ± 2.0 dB


R175 (FL)
R375 (FR)
R575 (BL)
R775 (BR)

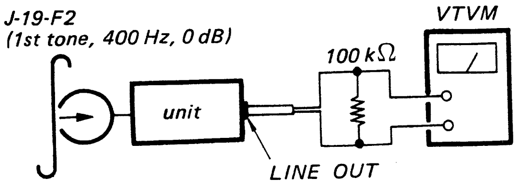
7. Playback Level Adjustment

Settings:

TAPE SELECT (EQ) switch: NORMAL
REC MODE switch: PB

Procedure:

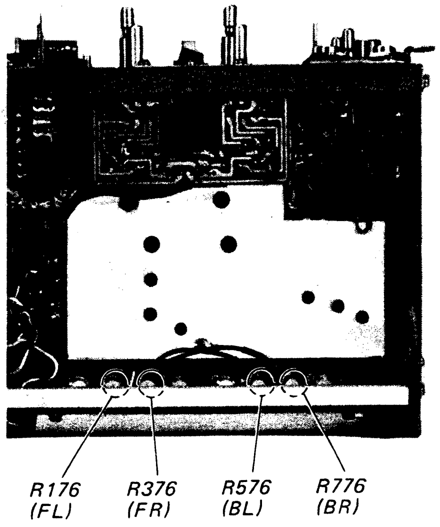
1. Mode: playback


J-19-F2
(1st tone, 400 Hz, 0 dB)
VTVM
100 kΩ
unit
LINE OUT

Adjust	Remarks
R176 (FRONT-L) R376 (FRONT-R) R576 (BACK-L) R776 (BACK-R)	Adjust for −5 dB (0.44 V) VTVM reading.

Note: Difference among channels should be within 1.0 dB.

2. Turn TAPE SELECT (EQ) switch to SPECIAL and make sure that the output level drops by 2.5 ± 1.0 dB.


R176
(FL)
R376
(FR)
R576
(BL)
R776
(BR)

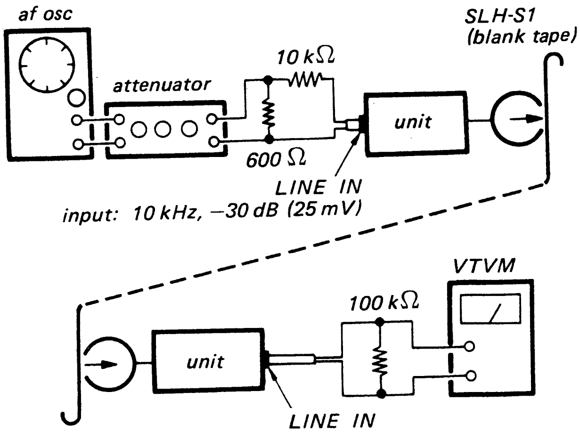
8. Record Head Angle Adjustment

Settings:

REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting (See page 15.)

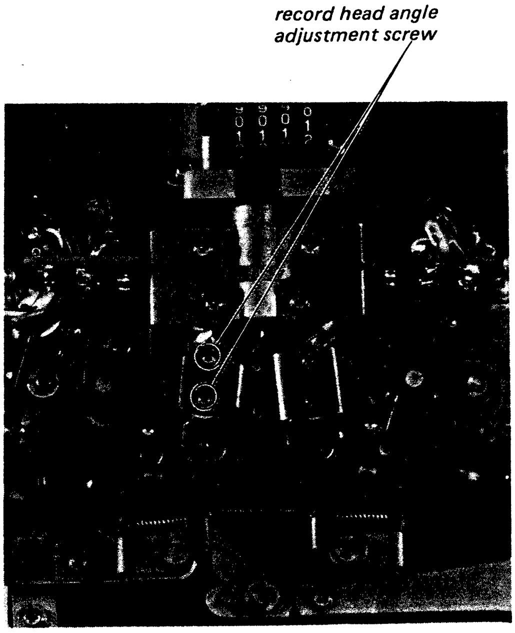
Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: 10 kHz, −30 dB (25 mV)
VTVM
100 kΩ
unit
LINE IN

Loosen the adjustment screws and adjust the record head position for maximum VTVM reading.

Note: When slightly touching the supply reel, the output level should not drop more than 1 dB.


record head angle
adjustment screw

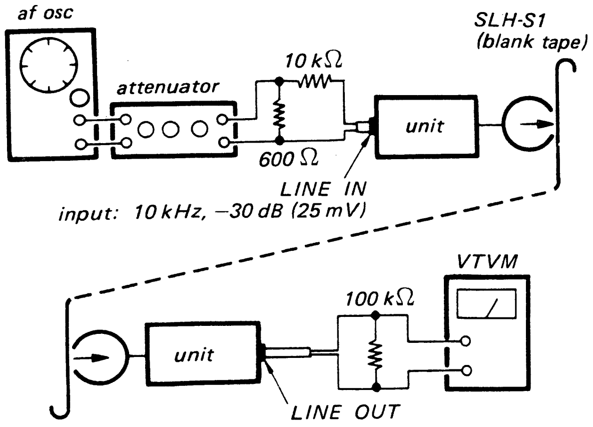
9. Record Head Azimuth Adjustment

Settings:

REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting (See page 15.)

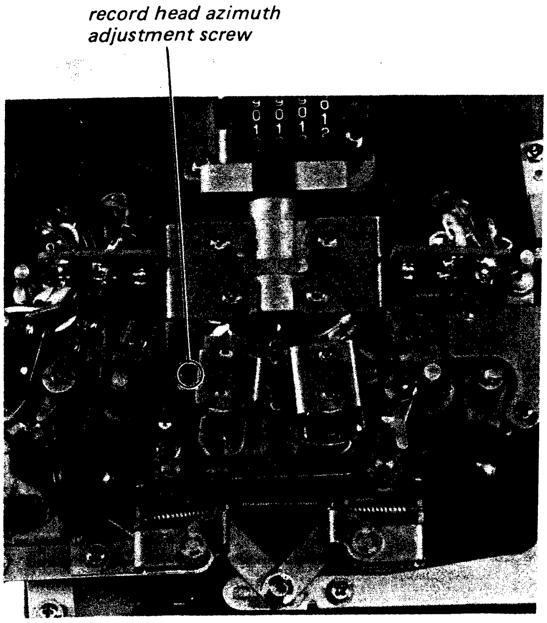
Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: 10 kHz, −30 dB (25 mV)
VTVM
100 kΩ
unit
LINE OUT

Adjust the adjustment screw for maximum VTVM reading.

Note: If the maximum readings for all the channels can not be obtained at the same screw position, set the screw at the mid between both extreme positions of the screw.


record head azimuth adjustment screw

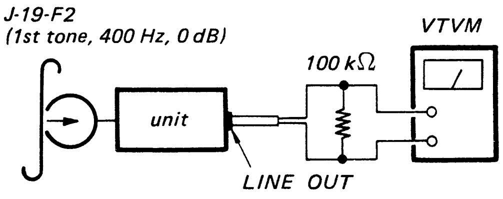
10. SYNCRO Level Adjustment

Settings:

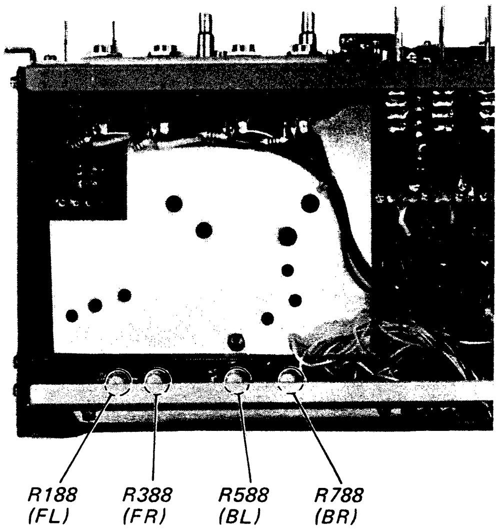
REC MODE switch: SYNCRO TRAK

Procedure:

Mode: playback


J-19-F2
(1st tone, 400 Hz, 0 dB)
unit
100 kΩ
VTVM
LINE OUT

Adjust	Remarks
R188 (FRONT-L) R388 (FRONT-R) R588 (BACK-L) R788 (BACK-R)	Adjust for −5 dB (0.44 V) VTVM reading.


R188
(FL)
R388
(FR)
R588
(BL)
R788
(BR)

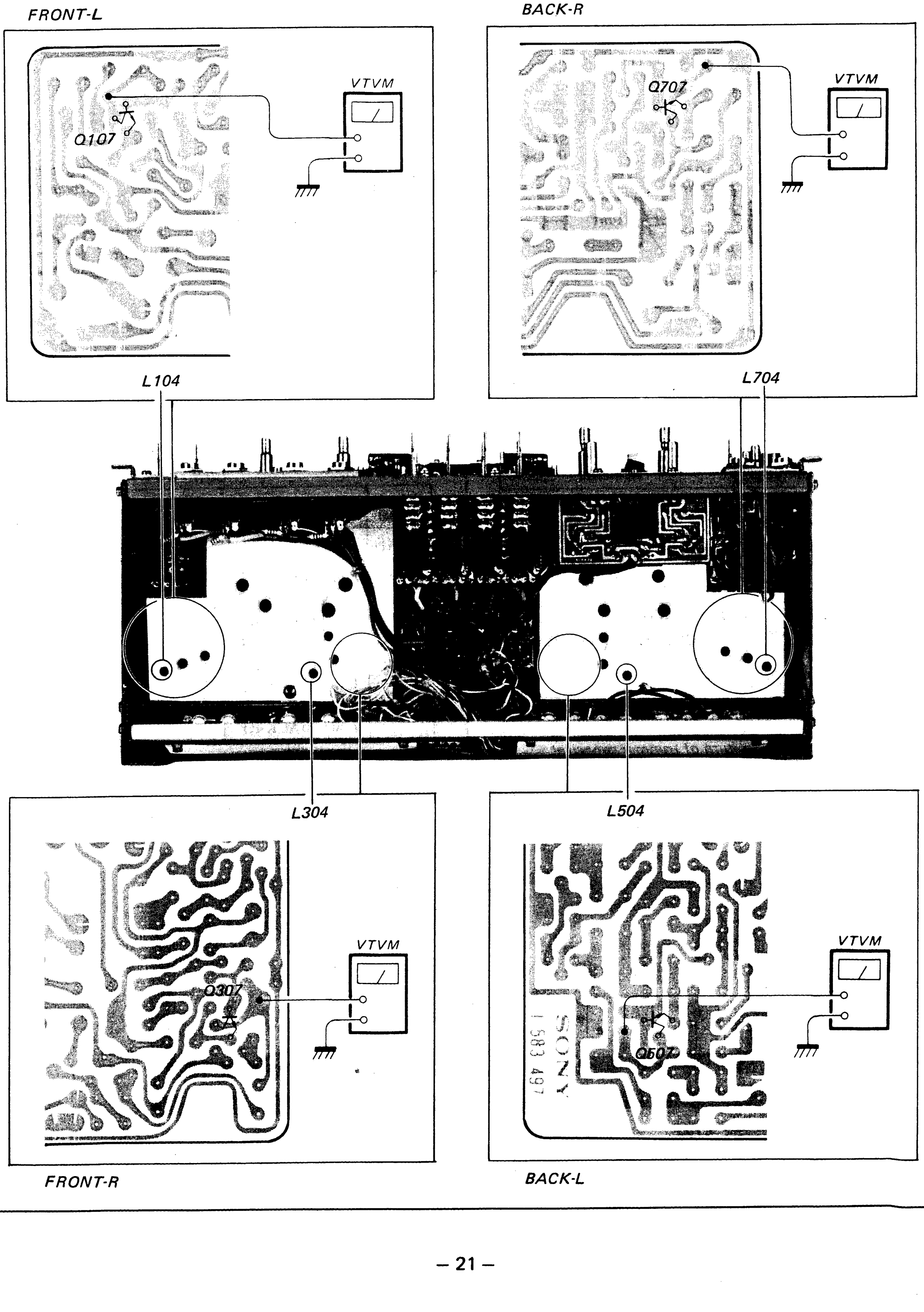
11. Record Bias Trap Adjustment

Settings:

REC MODE switch: REC

Procedure:

Mode: record with no signal input
Adjust for minimum VTVM reading.


FRONT-L
VTVM
Q107
L104
BACK-R
VTVM
Q707
L704
L304
L504
VTVM
Q307
VTVM
Q507
SONY
1-583-497
FRONT-R
BACK-L

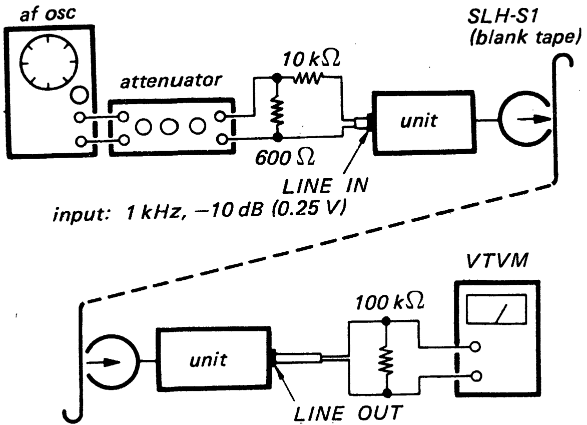
12. Record Bias Adjustment

Settings:

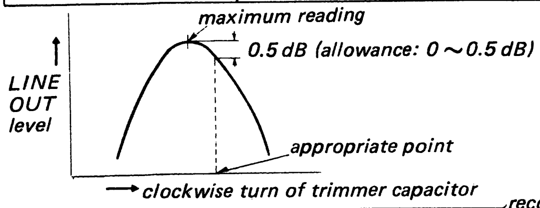
REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting (See page 15.)

Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
LINE IN
SLH-S1 (blank tape)
input: 1 kHz, −10 dB (0.25 V)
VTVM
100 kΩ
unit
LINE OUT

Adjust	Remarks
C904 (FRONT-L) C905 (FRONT-R) C906 (BACK-L) C907 (BACK-R)	Slowly turn the trimmer capacitor clockwise until VTVM reads 0.5 dB below and beyond the maximum reading.



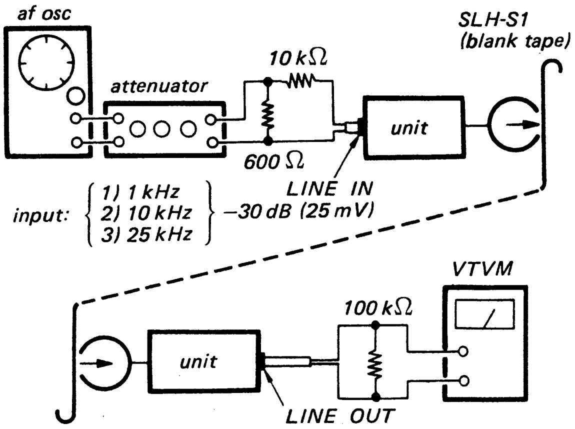
13. Record Equalizer Adjustment (38 cm/s, 15 ips)

Settings:

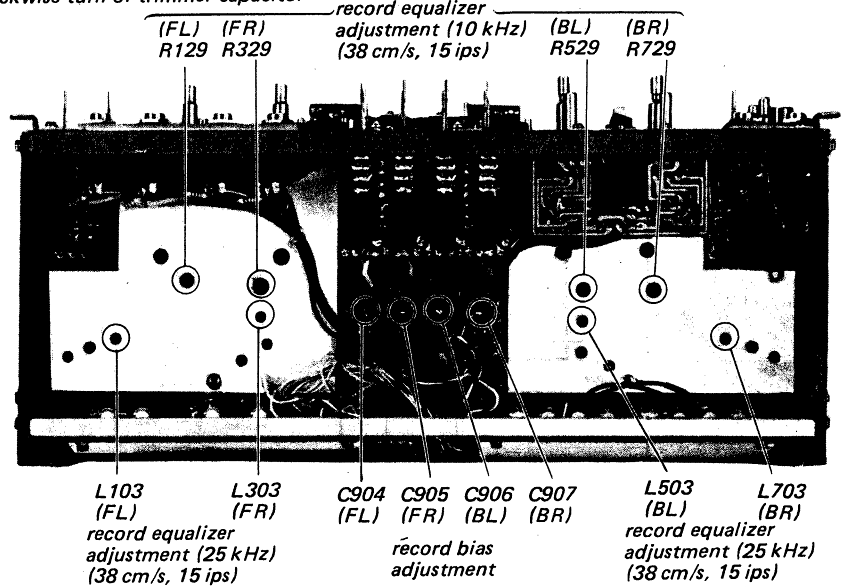
TAPE SPEED switch: 38 cm, 15
REC MODE switch: REC
REC LEVEL control
MIC: MIN
LINE: normal record setting (See page 15.)

Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
LINE IN
SLH-S1 (blank tape)
input: 1) 1 kHz 2) 10 kHz 3) 25 kHz −30 dB (25 mV)
VTVM
100 kΩ
unit
LINE OUT

Input Signal	Adjust	Remarks
1 kHz	———————	Memorize the output level.
10 kHz	R129 (FRONT-L) R329 (FRONT-R) R529 (BACK-L) R729 (BACK-R)	Adjust for the same level as 1-kHz output level.
25 kHz	L103 (FRONT-L) L303 (FRONT-R) L503 (BACK–L) L703 (BACK-R)	


record equalizer adjustment (10 kHz) (38 cm/s, 15 ips)
(FL) R129
(FR) R329
(BL) R529
(BR) R729
L103 (FL)
L303 (FR)
record equalizer adjustment (25 kHz) (38 cm/s, 15 ips)
C904 (FL)
C905 (FR)
C906 (BL)
C907 (BR)
record bias adjustment
L503 (BL)
L703 (BR)
record equalizer adjustment (25 kHz) (38 cm/s, 15 ips)

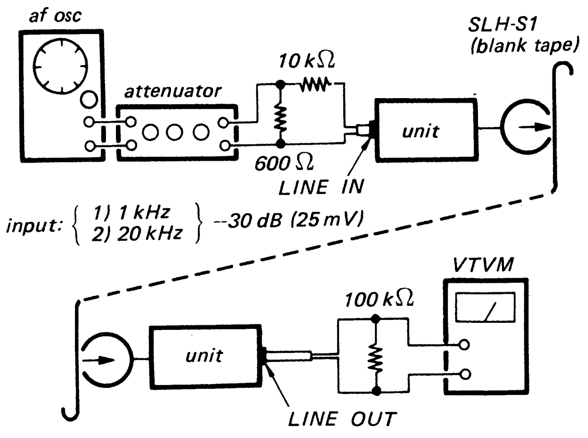
14. Record Equalizer Adjustment (19 cm/s, 7½ ips)

Settings:

TAPE SPEED switch:	19 cm, 7½
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: { 1) 1 kHz 2) 20 kHz } –30 dB (25 mV)
VTVM
100 kΩ
unit
LINE OUT

Input Signal	Adjust	Remarks
1 kHz		Memorize the output level.
20 kHz	L102 (FRONT-L) L302 (FRONT-R) L502 (BACK-L) L702 (BACK-R)	Adjust for the same level as 1-kHz output level.

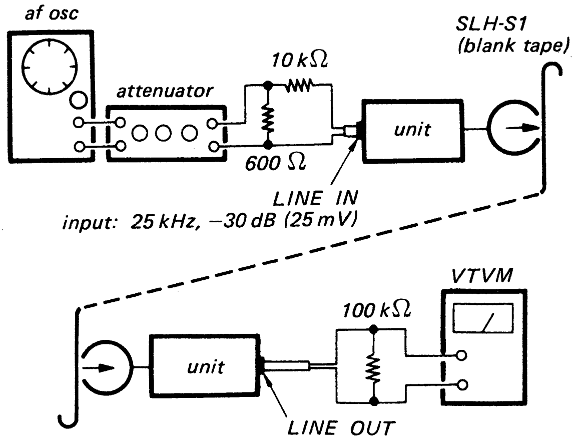
15. Dummy Coil Adjustment

Settings:

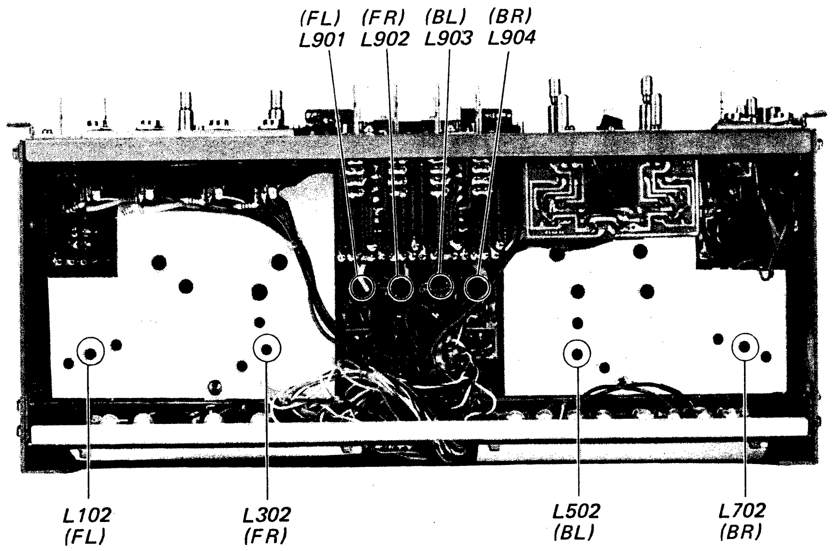
TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: 25 kHz, –30 dB (25 mV)
VTVM
100 kΩ
unit
LINE OUT

REC MODE switch	Adjust	Remarks
all channel: REC	——	Memorize the output level.
FL only: PB	L901	Adjust for the same level as 1-kHz output level.
FR only: PB	L902	
BL only: PB	L903	
BR only: PB	L904	


(FL) (FR) (BL) (BR)
L901 L902 L903 L904
L102 (FL)
L302 (FR)
L502 (BL)
L702 (BR)

dummy coil adjustment

record equalizer adjustment (20 kHz, 19 cm/s, 7½ ips)

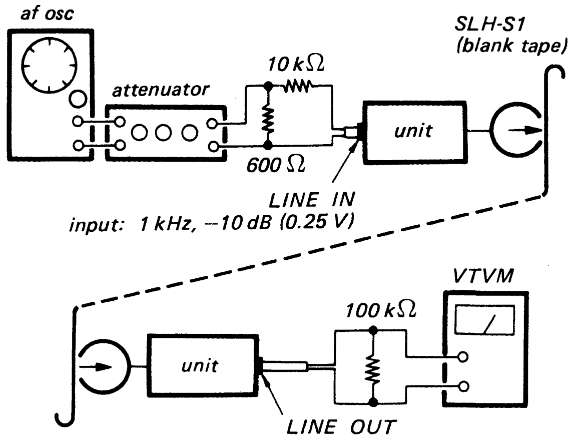
16. Record Level Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

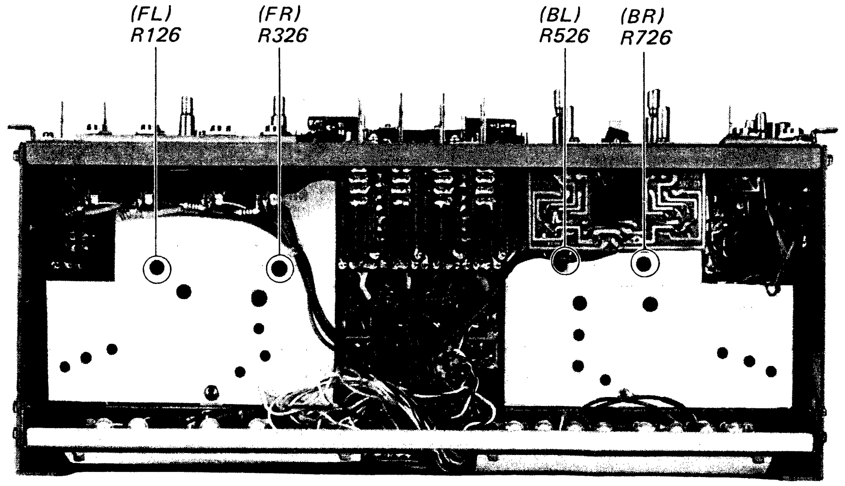
Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: 1 kHz, –10 dB (0.25 V)
VTVM
100 kΩ
unit
LINE OUT

Adjust	Remarks
R126 (FRONT-L) R326 (FRONT-R) R526 (BACK-L) R726 (BACK-R)	Adjust for –5 dB (0.44 V) VTVM reading.

Note: Level difference among channels should be within 2 dB.


(FL)
R126
(FR)
R326
(BL)
R526
(BR)
R726

ing

:1
: tape)

evel.
vel

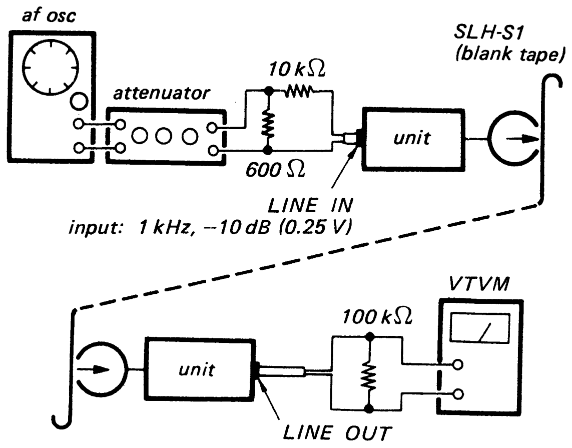
16. Record Level Adjustment

Settings:

TAPE SPEED switch:	38 cm, 15
REC MODE switch:	REC
REC LEVEL control	
MIC:	MIN
LINE:	normal record setting (See page 15.)

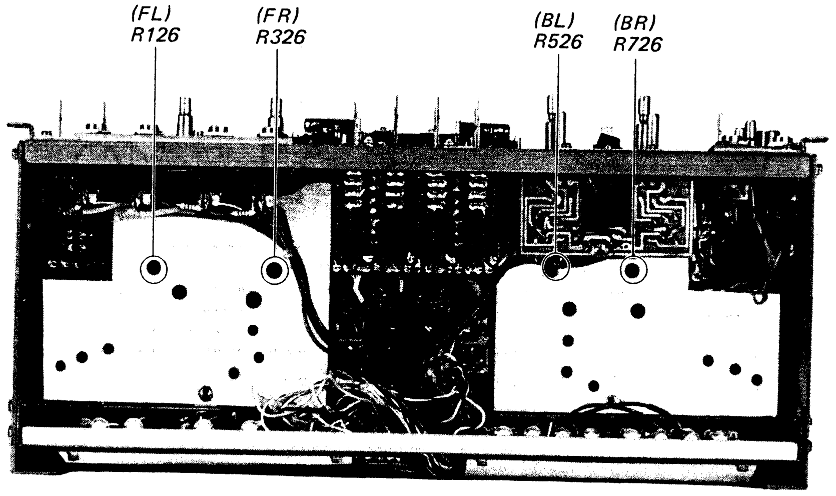
Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
LINE IN
SLH-S1
(blank tape)
input: 1 kHz, −10 dB (0.25 V)
VTVM
100 kΩ
unit
LINE OUT

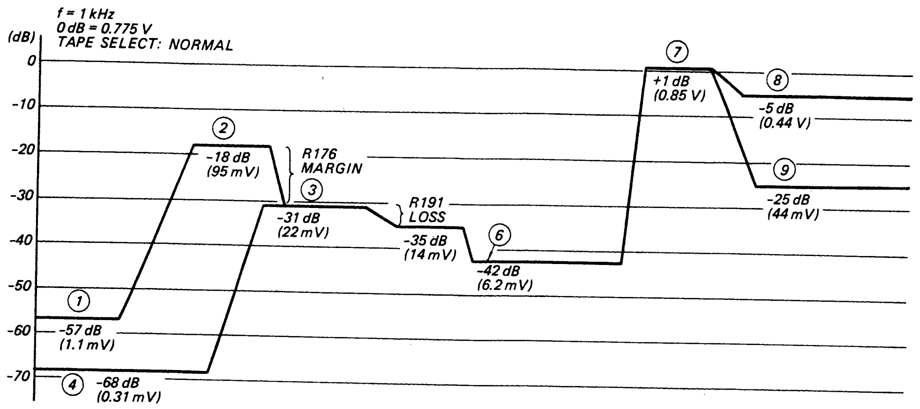
Adjust	Remarks
R126 (FRONT-L) R326 (FRONT-R) R526 (BACK-L) R726 (BACK-R)	Adjust for −5 dB (0.44 V) VTVM reading.

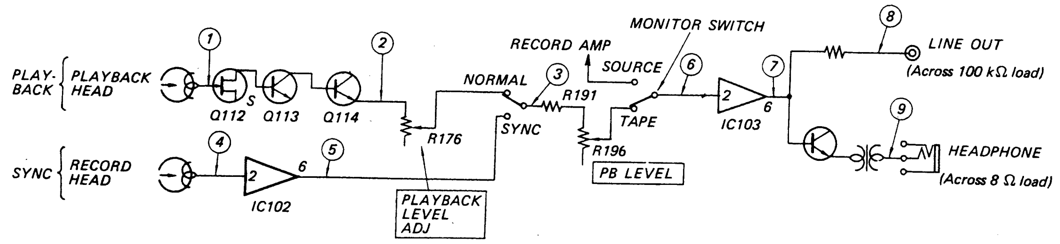
Note: Level difference among channels should be within 2 dB.


(FL)
R126
(FR)
R326
(BL)
R526
(BR)
R726

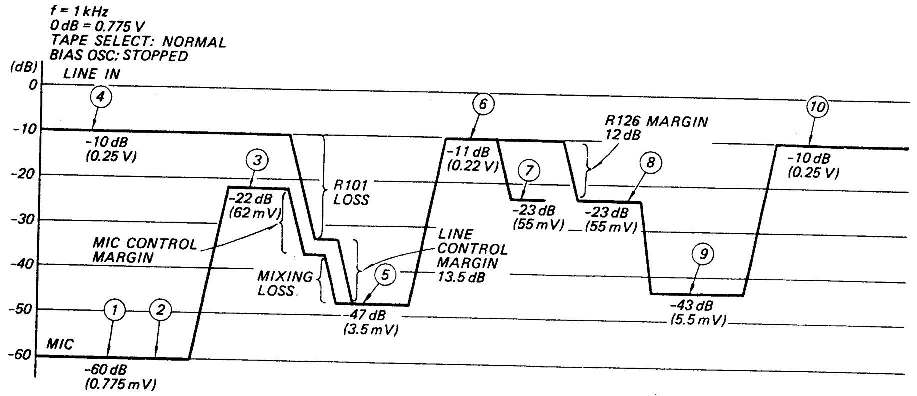
6. LEVEL DIAGRAMS

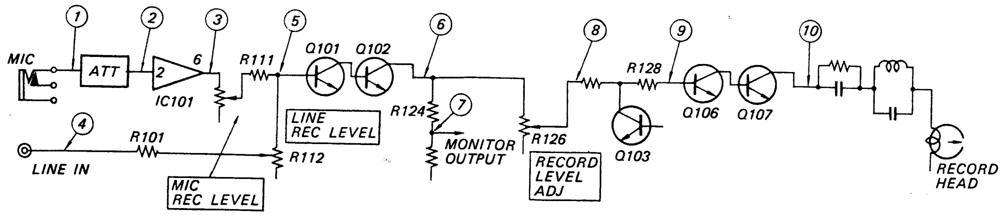
Playback Mode




PLAY-BACK
PLAYBACK HEAD
①
Q112
Q113
Q114
②
R176
PLAYBACK LEVEL ADJ
SYNC
RECORD HEAD
④
IC102
⑤
RECORD AMP
NORMAL
③
R191
SYNC
R196
PB LEVEL
MONITOR SWITCH
SOURCE
TAPE
⑥
IC103
⑦
⑧
LINE OUT
(Across 100 kΩ load)
⑨
HEADPHONE
(Across 8 Ω load)

Record Mode

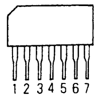



MIC
①
ATT
②
IC101
③
R111
⑤
Q101
Q102
LINE REC LEVEL
④
R101
LINE IN
MIC REC LEVEL
R112
⑥
R124
⑦
MONITOR OUTPUT
R126
RECORD LEVEL ADJ
⑧
R128
Q103
⑨
Q106
Q107
⑩
RECORD HEAD

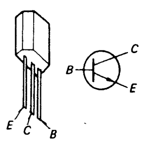
7. MOUNTING DIAGRAM (1) – Amplifier Section (1) –

– Conductor Side –

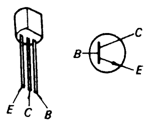
IC101, 301, 501, 701,
102, 302, 502, 702,
103, 303, 503, 703 : TA7122AP



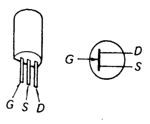
Q101, 301, 701,
501 (back record amp section),
113, 313, 513, 713 : 2SC632A
Q102 ~ 111,
302 ~ 311,
502 (back record amp section),
503 ~ 511,
702 ~ 711,
114, 314, 514, 714,
115, 315, 515, 715,
116, 316, 516, 716,
717,
118, 318, 518, 718,
119, 319, 519, 719 : 2SC634A



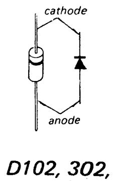
Q501 (bias osc section),
Q502 (bias osc section) : 2SC1475



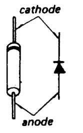
Q112, 312, 512, 712 : 2SK43



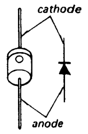
D101, 301, 501, 701 : IS2076

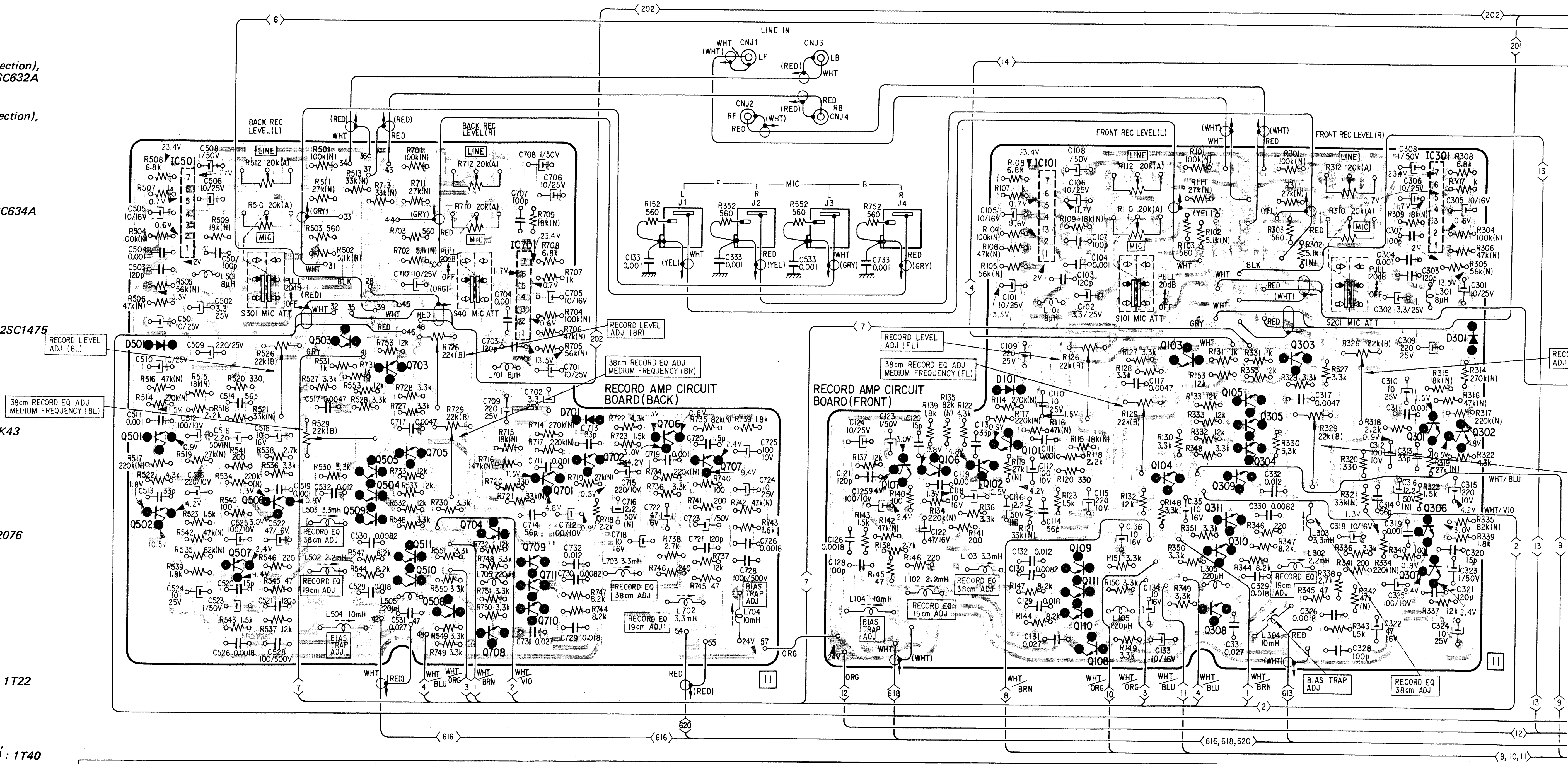

cathode
anode

D102, 302, 702,
502 (line amp section),
103, 303, 703,
503 (line amp section) : 1T22
D104, 304, 504, 704,
105, 305, 505, 705,
501 (SYNC section),
503 (SYNC section),
503 (tape select section),
504 (tape select section) : 1T40


cathode
anode

D502 (SYNC section) : 10E-2

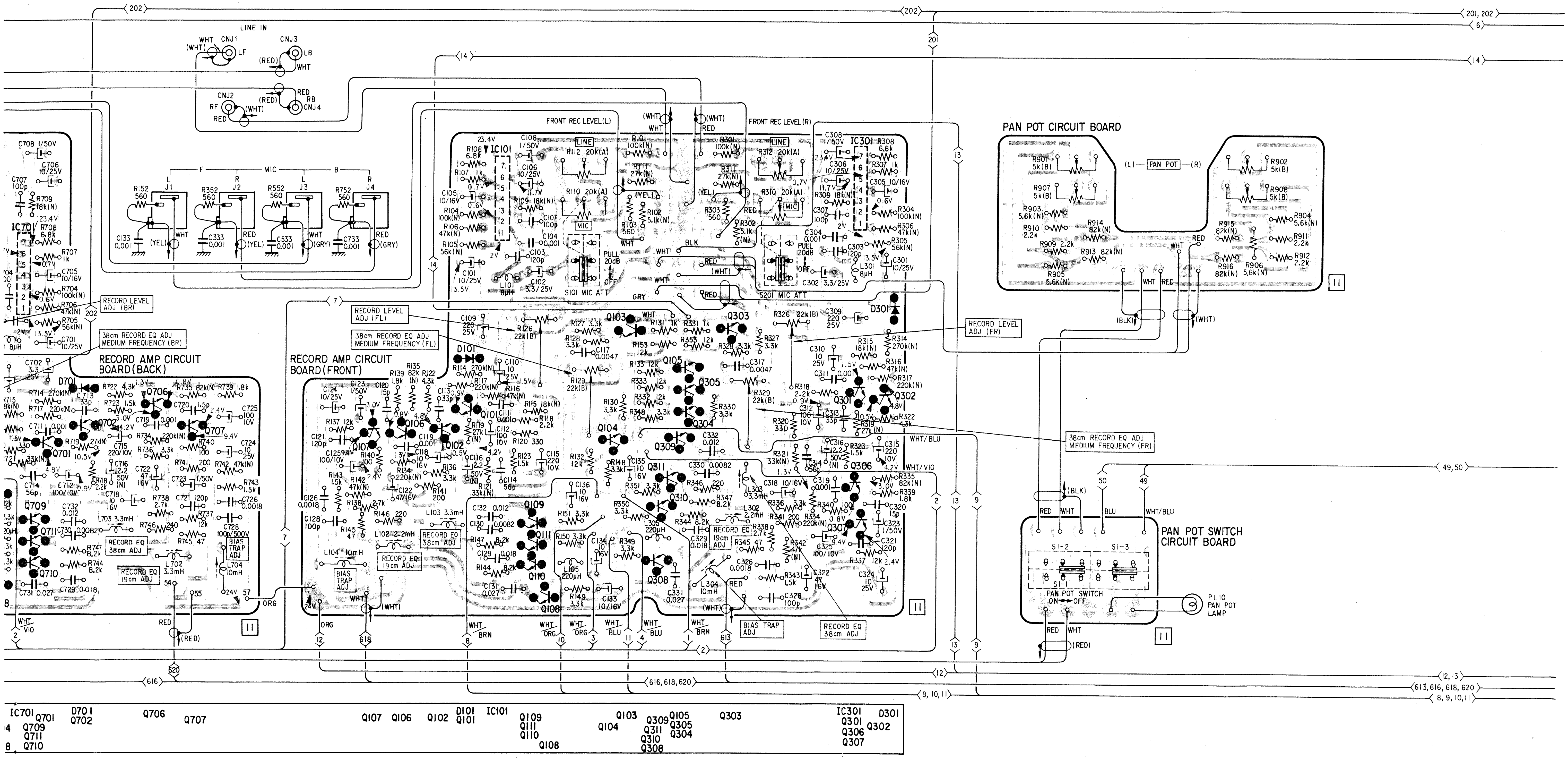

cathode
anode


RECORD AMP CIRCUIT BOARD (BACK)
RECORD AMP CIRCUIT BOARD (FRONT)
LINE IN
CNJ1
CNJ2
CNJ3
CNJ4
LF
LB
RF
RB
MIC
J1
J2
J3
J4
F
R
L
B
BACK REC LEVEL (L)
BACK REC LEVEL (R)
FRONT REC LEVEL (L)
FRONT REC LEVEL (R)
S301 MIC ATT
S401 MIC ATT
S101 MIC ATT
S201 MIC ATT
RECORD LEVEL ADJ (BL)
RECORD LEVEL ADJ (BR)
RECORD LEVEL ADJ (FL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FL)
RECORD EQ 38cm ADJ
RECORD EQ 19cm ADJ
BIAS TRAP ADJ
IC501
IC701
IC101
IC301
PULL 20dB
202
616
620
616, 618, 620
8, 10, 11
WHT/BLU
WHT/VIO
II

IC,Q,D	IC501 D501 Q501 Q502	Q507	Q506	Q503	Q703 Q505 Q504 Q509	Q705 Q511 Q510	Q508	Q704 Q708	IC701 Q709 Q711 Q710	Q701	D701 Q702	Q706	Q707	Q107	Q106	Q102	D101 Q101	IC101	Q109 Q111 Q110 Q108	Q103 Q104	Q309 Q311 Q310 Q308	Q105 Q305 Q304	Q303

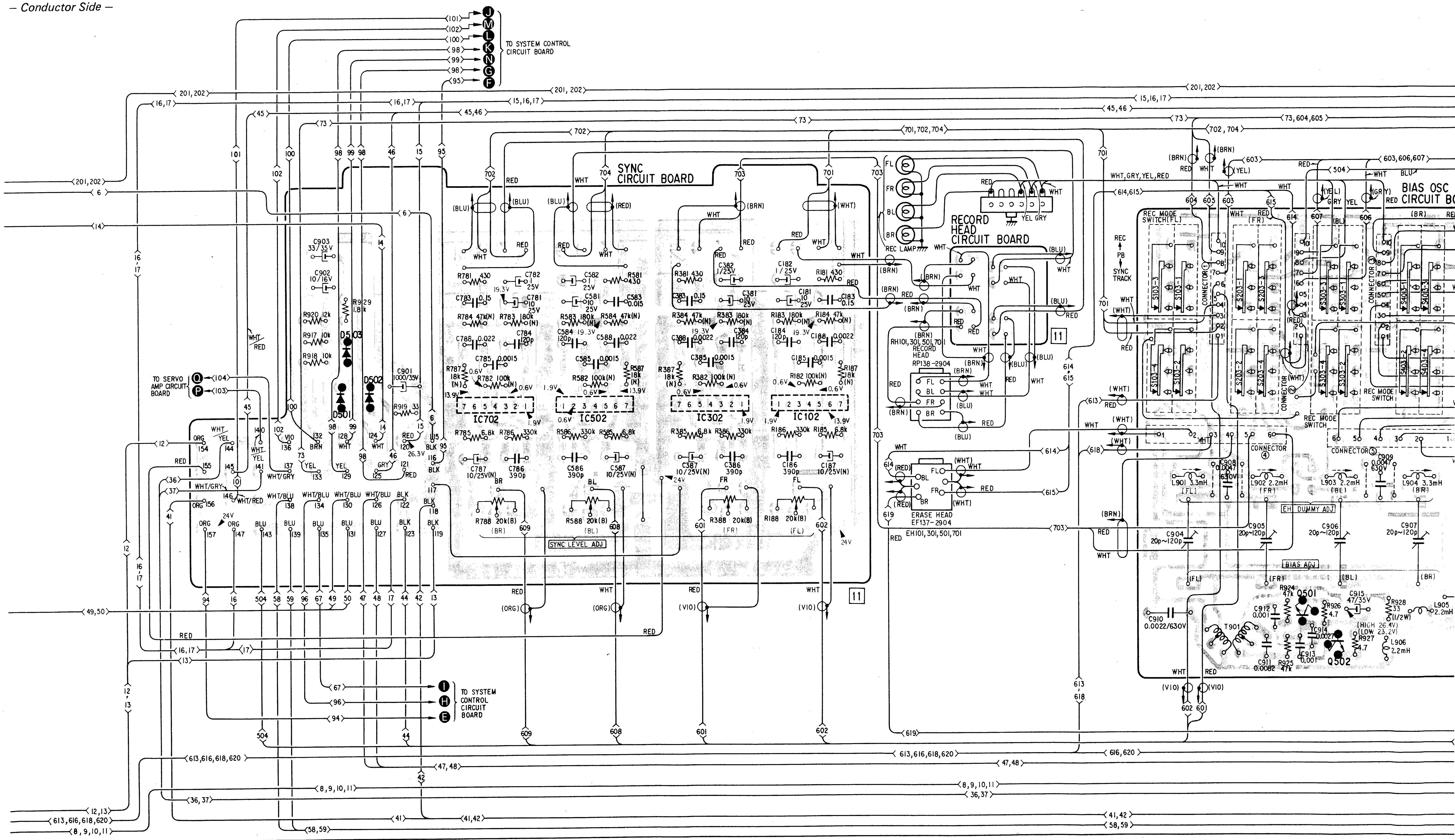
IC301 Q301 Q306 Q307	D301 Q302

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

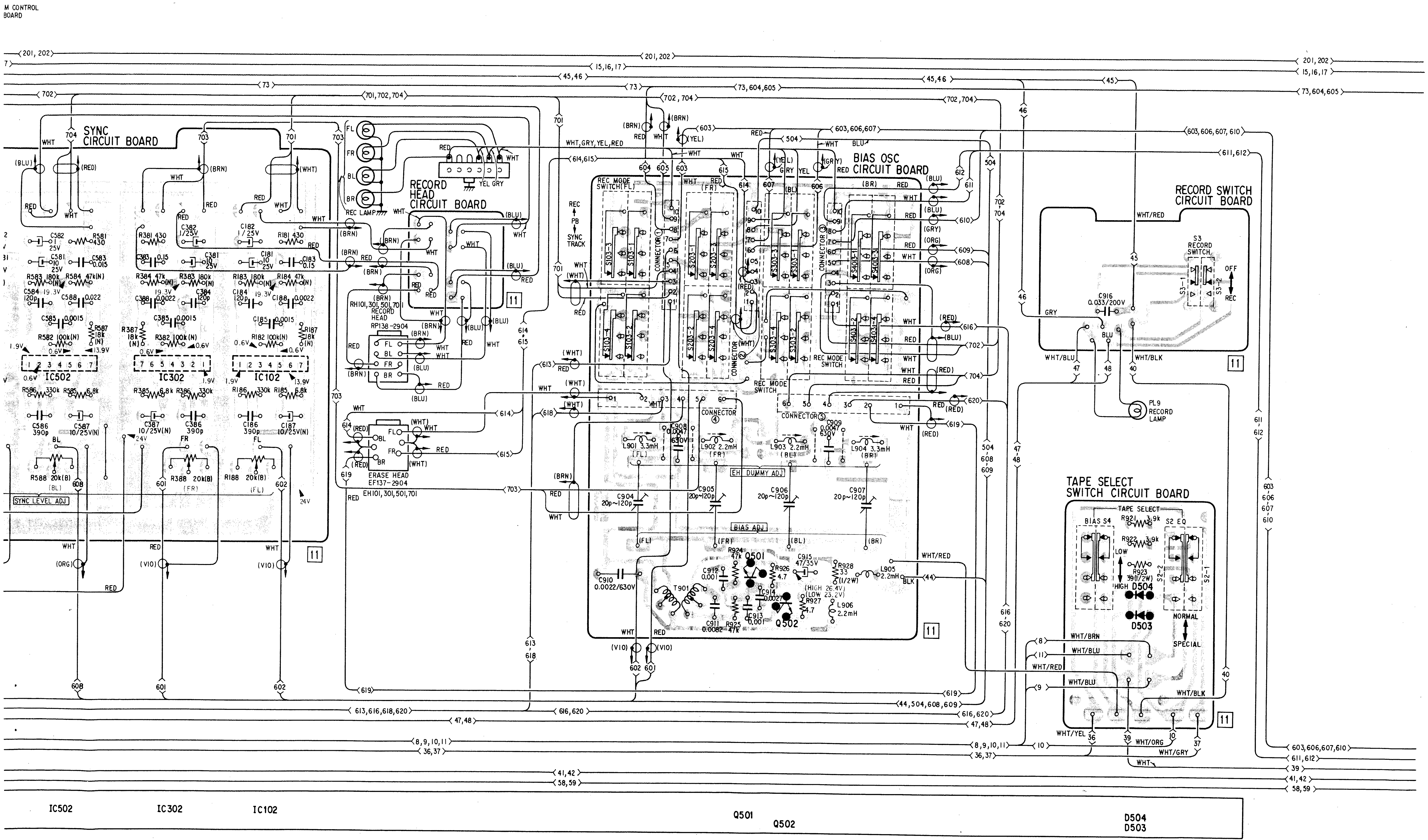

LINE IN
CNJ1
CNJ2
CNJ3
CNJ4
LF
RF
LB
RB
MIC
F
R
B
L
J1
J2
J3
J4
FRONT REC LEVEL(L)
FRONT REC LEVEL(R)
S101 MIC ATT
S201 MIC ATT
PULL 20dB
OFF
IC101
IC301
IC701
RECORD LEVEL ADJ (BR)
RECORD LEVEL ADJ (FL)
RECORD LEVEL ADJ (FR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FR)
RECORD AMP CIRCUIT BOARD (BACK)
RECORD AMP CIRCUIT BOARD (FRONT)
RECORD EQ 38cm ADJ
RECORD EQ 19cm ADJ
BIAS TRAP ADJ
PAN POT CIRCUIT BOARD
(L) — PAN POT — (R)
PAN POT SWITCH CIRCUIT BOARD
S1-1
S1-2
S1-3
PAN POT SWITCH ON ↔ OFF
PL10 PAN POT LAMP
D101
D301
D701
IC701 Q701 D701 Q702 Q706 Q707
Q709 Q711 Q710
Q107 Q106 Q102 D101 Q101 IC101
Q109 Q111 Q110 Q108
Q104 Q103 Q309 Q311 Q310 Q308
Q105 Q305 Q304
Q303
IC301 Q301 Q306 Q307 D301 Q302
(202)
(201, 202)
(6)
(14)
(7)
(49, 50)
(12)
(12, 13)
(616)
(616, 618, 620)
(613, 616, 618, 620)
(8, 10, 11)
(8, 9, 10, 11)
(2)
WHT
RED
YEL
GRY
BLK
BLU
ORG
BRN
VIO
WHT/BLU
WHT/VIO

8. MOUNTING DIAGRAM (2) – Amplifier Section (2) –

– Conductor Side –


TO SYSTEM CONTROL CIRCUIT BOARD
SYNC CIRCUIT BOARD
RECORD HEAD CIRCUIT BOARD
BIAS OSC CIRCUIT BO
TO SERVO AMP CIRCUIT BOARD
TO SYSTEM CONTROL CIRCUIT BOARD
RH101, 301, 501, 701 RECORD HEAD RP138-2904
ERASE HEAD EF137-2904
EH101, 301, 501, 701
REC LAMP
REC MODE SWITCH(FL)
REC MODE SWITCH
CONNECTOR①
CONNECTOR②
CONNECTOR③
CONNECTOR④
CONNECTOR⑤
SYNC LEVEL ADJ
EH DUMMY ADJ
BIAS ADJ
IC702
IC502
IC302
IC102
D501
D502
D503
Q501
Q502
T901
REC
PB
SYNC TRACK
(HIGH 26.4V)
(LOW 23.2V)

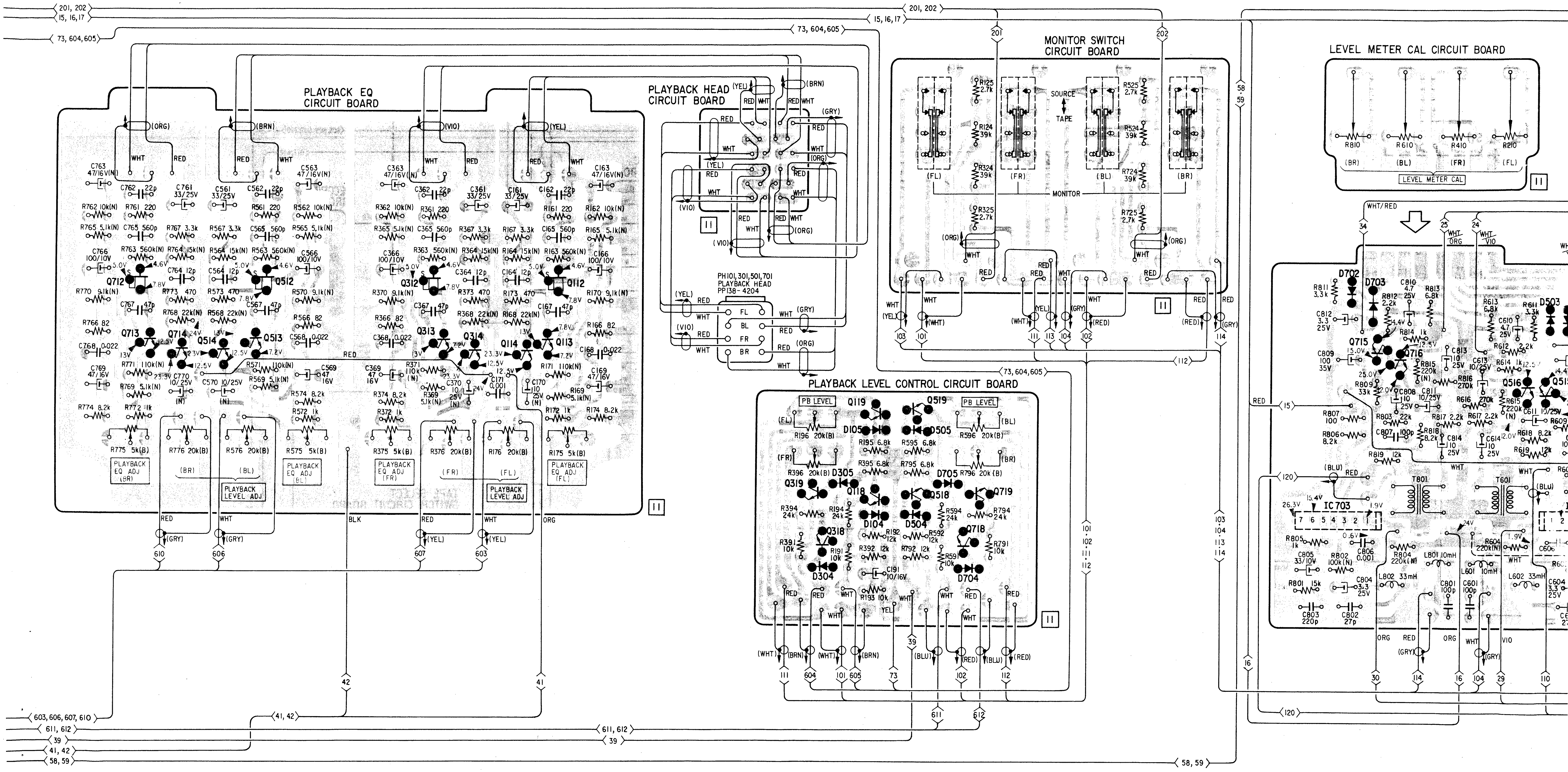
IC, Q, D	D503 D501 D502	IC702	IC502	IC302	IC102	Q501 Q502


M CONTROL BOARD
SYNC CIRCUIT BOARD
RECORD HEAD CIRCUIT BOARD
BIAS OSC CIRCUIT BOARD
RECORD SWITCH CIRCUIT BOARD
TAPE SELECT SWITCH CIRCUIT BOARD
REC MODE SWITCH(FL)
REC MODE SWITCH
REC ↕ PB SYNC TRACK
RH101,301,501,701 RECORD HEAD RP138-2904
ERASE HEAD EF137-2904
EH101,301,501,701
REC LAMP
S3 RECORD SWITCH
OFF
REC
PL9 RECORD LAMP
C916 0.033/200V
TAPE SELECT
BIAS S4
S2 EQ
LOW
HIGH
NORMAL
SPECIAL
D504
D503
R921 3.9k
R922 3.9k
R923 39(1/2W)
IC502
IC302
IC102
SYNC LEVEL ADJ
R588 20k(B) (BL)
R388 20k(B) (FR)
R188 20k(B) (FL)
CONNECTOR ①
CONNECTOR ②
CONNECTOR ③
CONNECTOR ④
CONNECTOR ⑤
L901 3.3mH
L902 2.2mH
L903 2.2mH
L904 3.3mH
C908 0.0047 630V
C909 0.0047 630V
EH DUMMY ADJ
C904 20p~120p
C905 20p~120p
C906 20p~120p
C907 20p~120p
BIAS ADJ
Q501
Q502
T901
C910 0.0022/630V
C915 47/35V
L905 2.2mH
L906 2.2mH
(HIGH 26.4V) (LOW 23.2V)
11
IC502 IC302 IC102 Q501 Q502 D504 D503

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

9. MOUNTING DIAGRAM (3) – Amplifier Section (3) –

– Conductor Side –


PLAYBACK EQ CIRCUIT BOARD
PLAYBACK HEAD CIRCUIT BOARD
PH101, 301, 501, 701 PLAYBACK HEAD PP138-4204
MONITOR SWITCH CIRCUIT BOARD
SOURCE
TAPE
MONITOR
LEVEL METER CAL CIRCUIT BOARD
LEVEL METER CAL
PLAYBACK LEVEL CONTROL CIRCUIT BOARD
PB LEVEL
PLAYBACK EQ ADJ (BR)
PLAYBACK LEVEL ADJ
PLAYBACK EQ ADJ (BL)
PLAYBACK EQ ADJ (FR)
PLAYBACK LEVEL ADJ
PLAYBACK EQ ADJ (FL)
IC703
T801
T601
201, 202
15, 16, 17
73, 604, 605
603, 606, 607, 610
611, 612
39
41, 42
58, 59
120

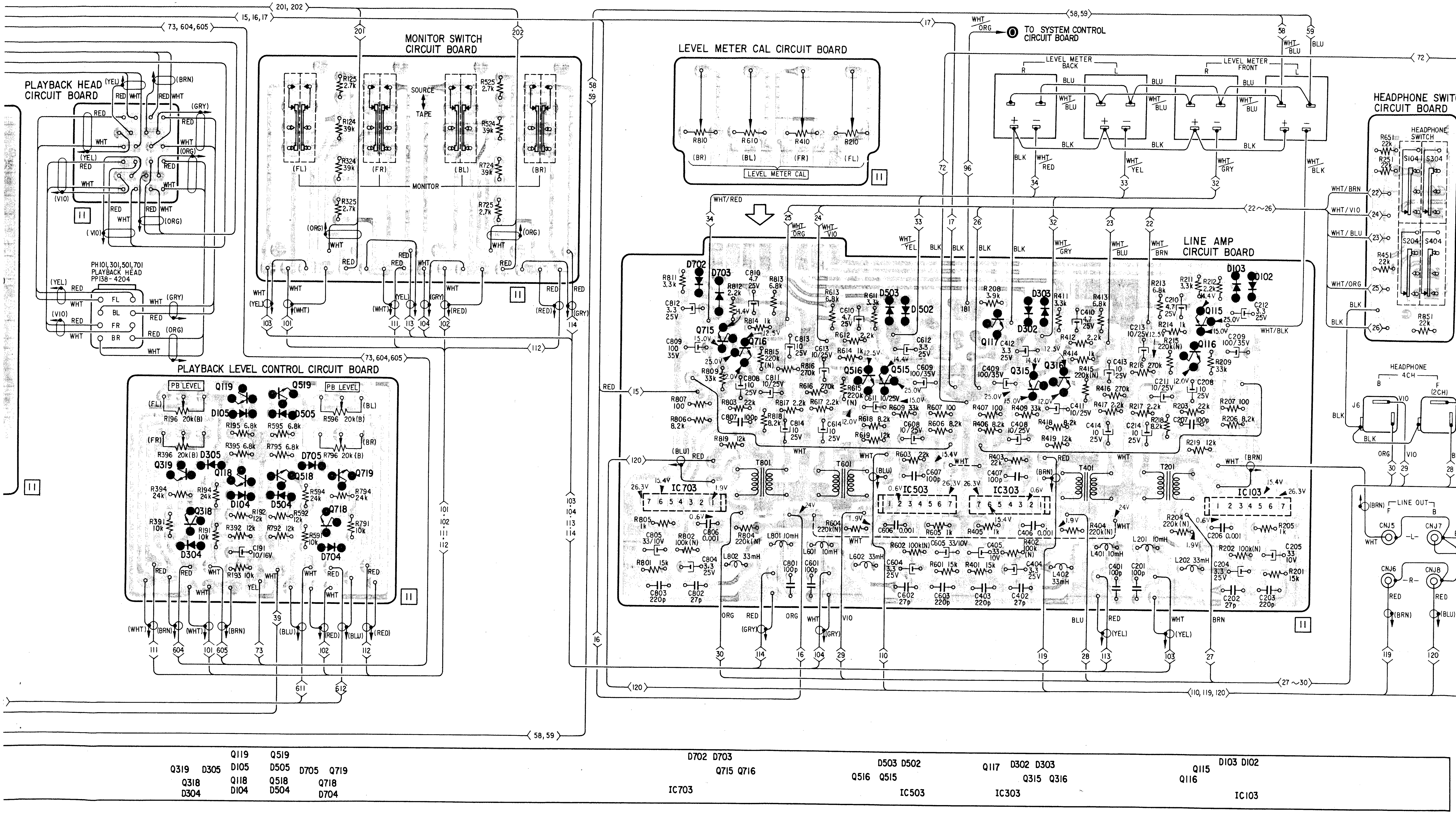
Q
D
IC

Q712 Q713 Q714 Q514 Q512 Q513 Q312 Q313 Q314 Q114 Q112 Q113

Q319 Q318 D304 D305 Q119 D105 Q118 D104 Q519 D505 Q518 D504 D705 Q719 Q718 D704

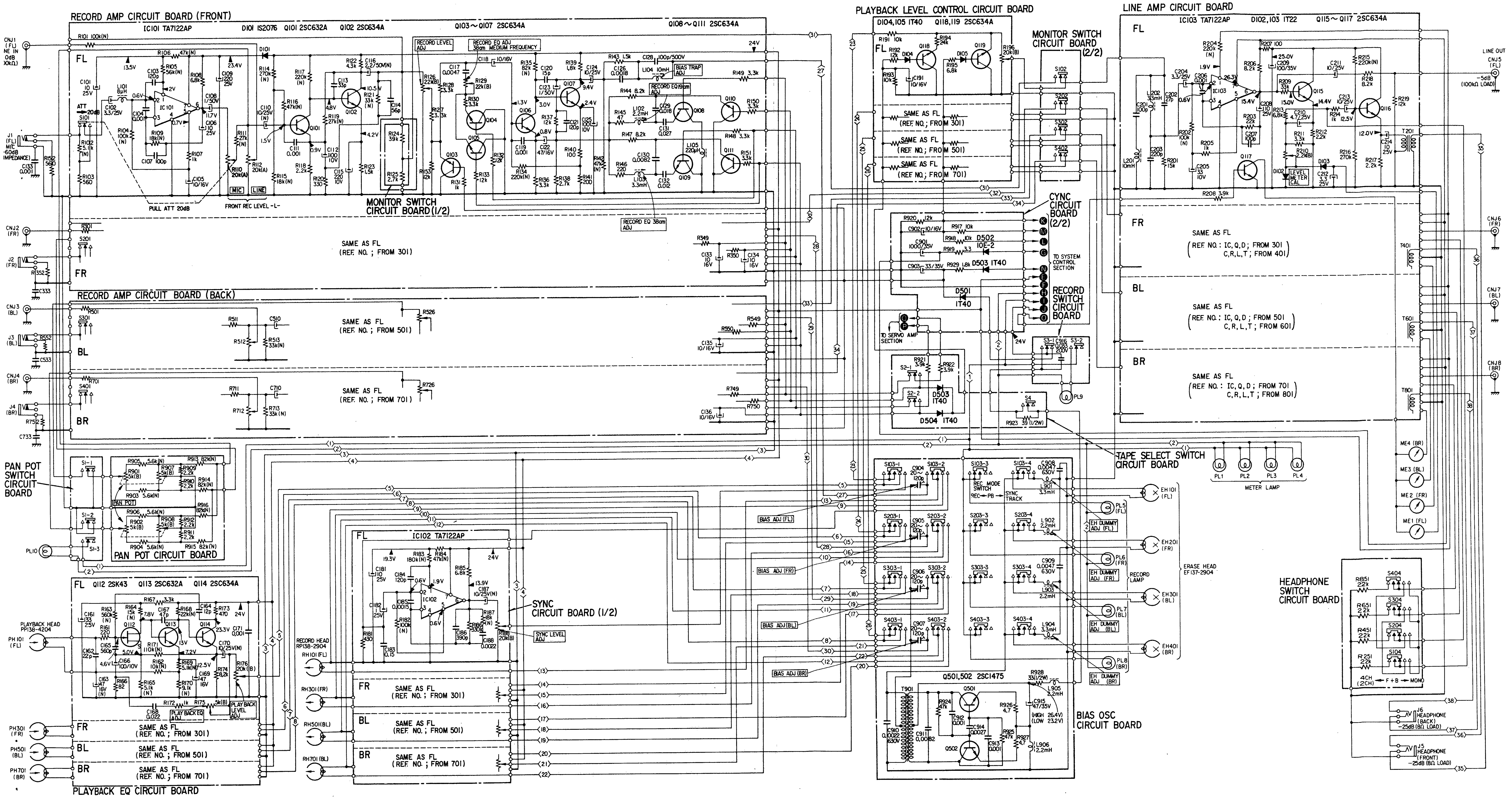
D702 D703 Q715 Q716 IC703

D503 Q516 Q515


PLAYBACK HEAD CIRCUIT BOARD
PH101, 301, 501, 701 PLAYBACK HEAD PP138-4204
MONITOR SWITCH CIRCUIT BOARD
SOURCE
TAPE
MONITOR
(FL)
(FR)
(BL)
(BR)
PLAYBACK LEVEL CONTROL CIRCUIT BOARD
PB LEVEL
LEVEL METER CAL CIRCUIT BOARD
LEVEL METER CAL
R810
R610
R410
R210
TO SYSTEM CONTROL CIRCUIT BOARD
LEVEL METER BACK
LEVEL METER FRONT
HEADPHONE SWITCH CIRCUIT BOARD
HEADPHONE SWITCH
S104
S304
S204
S404
4CH (2CH)
F+B
MONO
LINE AMP CIRCUIT BOARD
IC703
IC503
IC303
IC103
T801
T601
T401
T201
HEADPHONE 4CH
J6
J5
LINE OUT
CNJ5
CNJ7
CNJ6
CNJ8
(201, 202)
(15, 16, 17)
(73, 604, 605)
(58, 59)
(22 ~ 26)
(27 ~ 30)
(110, 119, 120)
Q319 D305
Q318 D304
Q119 D105 Q118 D104
Q519 D505 Q518 D504
D705 Q719 Q718 D704
D702 D703 Q715 Q716
IC703
D503 D502 Q516 Q515
IC503
Q117 D302 D303 Q315 Q316
IC303
Q115 Q116 D103 D102
IC103

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

10. SCHEMATIC DIAGRAM (1) – Amplifier Section –


RECORD AMP CIRCUIT BOARD (FRONT)
IC101 TA7122AP
D101 1S2076
Q101 2SC632A
Q102 2SC634A
Q103～Q107 2SC634A
Q108～Q111 2SC634A
RECORD LEVEL ADJ
RECORD EQ ADJ 38cm MEDIUM FREQUENCY
BIAS TRAP ADJ
RECORD EQ 19cm ADJ
RECORD EQ 38cm ADJ
MONITOR SWITCH CIRCUIT BOARD (1/2)
PULL ATT 20dB
FRONT REC LEVEL -L-
MIC
LINE
CNJ1 (FL) LINE IN 0dB 100kΩ
J1 (FL) MIC -60dB IMPEDANCE
CNJ2 (FR)
J2 (FR)
CNJ3 (BL)
J3 (BL)
CNJ4 (BR)
J4 (BR)
FL
FR
BL
BR
SAME AS FL (REF. NO. ; FROM 301)
RECORD AMP CIRCUIT BOARD (BACK)
SAME AS FL (REF. NO. ; FROM 501)
SAME AS FL (REF. NO. ; FROM 701)
PLAYBACK LEVEL CONTROL CIRCUIT BOARD
D104,105 1T40
Q118,119 2SC634A
SAME AS FL (REF. NO. ; FROM 301)
SAME AS FL (REF. NO. ; FROM 501)
SAME AS FL (REF. NO. ; FROM 701)
MONITOR SWITCH CIRCUIT BOARD (2/2)
LINE AMP CIRCUIT BOARD
IC103 TA7122AP
D102,103 1T22
Q115～Q117 2SC634A
LEVEL METER CAL
LINE OUT CNJ5 (FL) -5dB (100kΩ LOAD)
CNJ6 (FR)
CNJ7 (BL)
CNJ8 (BR)
SAME AS FL (REF. NO. : IC, Q, D ; FROM 301 C, R, L, T ; FROM 401)
SAME AS FL (REF. NO. : IC, Q, D ; FROM 501 C, R, L, T ; FROM 601)
SAME AS FL (REF. NO. : IC, Q, D ; FROM 701 C, R, L, T ; FROM 801)
CYNC CIRCUIT BOARD (2/2)
TO SYSTEM CONTROL SECTION
RECORD SWITCH CIRCUIT BOARD
D501 1T40
D502 10E-2
D503 1T40
D504 1T40
TO SERVO AMP SECTION
TAPE SELECT SWITCH CIRCUIT BOARD
PL1 PL2 PL3 PL4
METER LAMP
ME1 (FL) ME2 (FR) ME3 (BL) ME4 (BR)
PAN POT SWITCH CIRCUIT BOARD
PAN POT CIRCUIT BOARD
PL10
FL Q112 2SK43 Q113 2SC632A Q114 2SC634A
PLAYBACK HEAD PP138-4204
PH101 (FL)
PH301 (FR)
PH501 (BL)
PH701 (BR)
PLAYBACK EQ ADJ
PLAYBACK LEVEL ADJ
PLAYBACK EQ CIRCUIT BOARD
IC102 TA7122AP
SYNC CIRCUIT BOARD (1/2)
SYNC LEVEL ADJ
RECORD HEAD RP138-2904
RH101 (FL)
RH301 (FR)
RH501 (BL)
RH701 (BR)
BIAS ADJ (FL)
BIAS ADJ (FR)
BIAS ADJ (BL)
BIAS ADJ (BR)
REC MODE SWITCH
REC ← PB → SYNC TRACK
EH DUMMY ADJ (FL)
EH DUMMY ADJ (FR)
EH DUMMY ADJ (BL)
EH DUMMY ADJ (BR)
RECORD LAMP
EH101 (FL)
EH201 (FR)
EH301 (BL)
EH401 (BR)
ERASE HEAD EF137-2904
PL5 (FL) PL6 (FR) PL7 (BL) PL8 (BR)
Q501,502 2SC1475
BIAS OSC CIRCUIT BOARD
HEADPHONE SWITCH CIRCUIT BOARD
4CH (2CH) ← F+B → MONO
J6 HEADPHONE (BACK) -25dB (8Ω LOAD)
J5 HEADPHONE (FRONT) -25dB (8Ω LOAD)

Note:

FL : Front Left
FR : Front Right
BL : Back Left
BR : Back Right

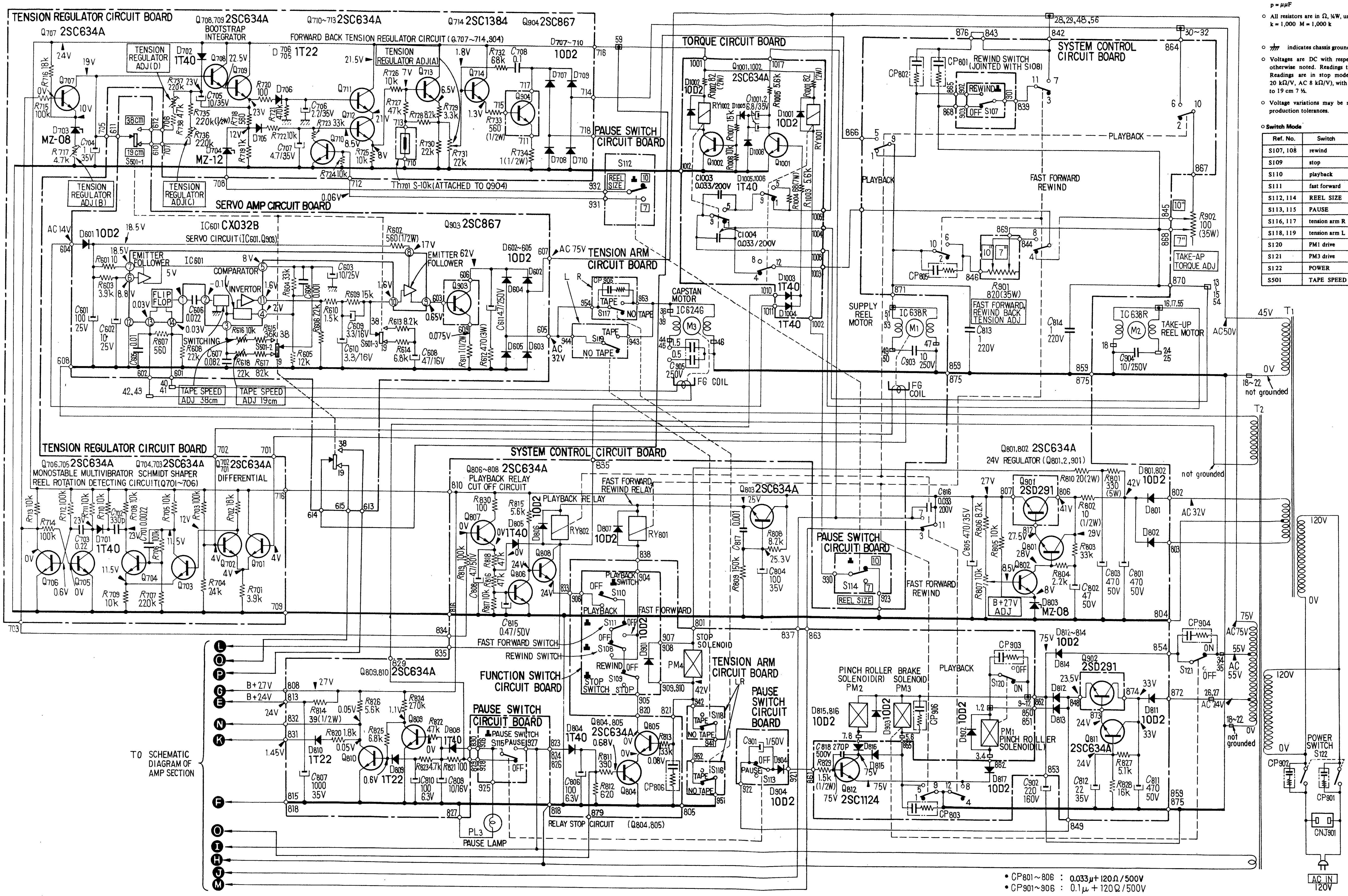
- ○ All capacitors are in μF unless otherwise noted. p = μμF
- ○ All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- ○ (N) indicates a low-noise resistor.
- ○ ⏚ indicates chassis ground.
- ○ Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal conditions with a VOM (20 kΩ/V). Readings in ( ) are in record mode.

Voltage variations may be noted due to normal production tolerances.

○ **Switch Mode**

Ref. No.	Switch	Mode
S101, 201 S301, 401	MIC PULL ATT 20 dB	0 dB
S102, 202 S302, 402	MONITOR	TAPE
S103, 203 S303, 403	REC MODE	PB
S104, 204 S304, 404	HEADPHONE	4 CH (2 CH)
S1	PAN POT	OFF
S2	EQ, TAPE SELECT	NORMAL
S3	REC	OFF
S4	BIAS, TAPE SELECT	LOW

11. SCHEMATIC DIAGRAM (2) – System Control Section –


TENSION REGULATOR CIRCUIT BOARD
Q707 2SC634A
Q708,709 2SC634A
BOOTSTRAP INTEGRATOR
Q710~713 2SC634A
FORWARD BACK TENSION REGULATOR CIRCUIT (Q707~714,904)
Q714 2SC1384
Q904 2SC867
D707~710 10D2
TENSION REGULATOR ADJ(D)
TENSION REGULATOR ADJ(A)
TENSION REGULATOR ADJ(B)
TENSION REGULATOR ADJ(C)
MZ-08
MZ-12
D705 D706 1T22
D702 1T40
38cm
19cm
S501-1
TH701 S-10k (ATTACHED TO Q904)
SERVO AMP CIRCUIT BOARD
IC601 CX032B
SERVO CIRCUIT (IC601,Q903)
Q903 2SC867
D601 10D2
D602~605 10D2
EMITTER FOLLOWER
COMPARATOR
INVERTOR
FLIP FLOP
SWITCHING
EMITTER FOLLOWER
TAPE SPEED ADJ 38cm
TAPE SPEED ADJ 19cm
TENSION ARM CIRCUIT BOARD
S117 TAPE NO TAPE
S119 TAPE NO TAPE
CAPSTAN MOTOR
IC624G
M3
FG COIL
PAUSE SWITCH CIRCUIT BOARD
S112 REEL SIZE 10 7
TORQUE CIRCUIT BOARD
Q1001,1002 2SC634A
D1001 10D2
D1002 10D2
RY1001
RY1002
D1003 1T40
D1004 1T40
D1005,1006 1T40
C1003 0.033/200V
C1004 0.033/200V
SYSTEM CONTROL CIRCUIT BOARD
REWIND SWITCH (JOINTED WITH S108)
REWIND
OFF S107
PLAYBACK
FAST FORWARD REWIND
SUPPLY REEL MOTOR
IC638R
M1
R901 820(35W)
FAST FORWARD, REWIND BACK TENSION ADJ
R902 100 (35W)
TAKE-AP TORQUE ADJ
TAKE-UP REEL MOTOR
M2
AC50V
45V T1
0V
18~22 not grounded
T2
TENSION REGULATOR CIRCUIT BOARD
Q706,705 2SC634A
MONOSTABLE MULTIVIBRATOR
REEL ROTATION DETECTING CIRCUIT (Q701~706)
Q704,703 2SC634A
SCHMIDT SHAPER
Q702,701 2SC634A
DIFFERENTIAL
D701 1T40
SYSTEM CONTROL CIRCUIT BOARD
Q806~808 2SC634A
PLAYBACK RELAY CUT OFF CIRCUIT
PLAYBACK RELAY
RY802
FAST FORWARD REWIND RELAY
RY801
D807 10D2
Q803 2SC634A
PLAYBACK SWITCH
S110
S111
S108
S109
FAST FORWARD SWITCH
REWIND SWITCH
FUNCTION SWITCH CIRCUIT BOARD
STOP SWITCH
STOP SOLENOID
PM4
TENSION ARM CIRCUIT BOARD
S118
S116
PAUSE SWITCH CIRCUIT BOARD
S113
PAUSE SWITCH CIRCUIT BOARD
S114 REEL SIZE
Q809,810 2SC634A
PAUSE SWITCH CIRCUIT BOARD
S115 PAUSE
PAUSE LAMP
PL3
Q804,805 2SC634A
RELAY STOP CIRCUIT (Q804,805)
Q801,802 2SC634A
24V REGULATOR (Q801,2,901)
Q901 2SD291
D801,802 10D2
B+27V ADJ
D803 MZ-08
AC 32V
not grounded
120V
PINCH ROLLER SOLENOID(R) PM2
BRAKE SOLENOID PM3
PM1 PINCH ROLLER SOLENOID(L)
D815,816 10D2
Q812 2SC1124
D812~814 10D2
Q902 2SD291
Q811 2SC634A
D811 10D2
CP903
CP904
CP905
CP906
S120
S121
AC 75V
AC 55V
AC 24V
POWER SWITCH S122
CP902
CP901
CNJ901
AC IN 120V
TO SCHEMATIC DIAGRAM OF AMP SECTION
L
Q
P
G
E
N
K
F
O
I
H
J
M

Note:

- All capacitors are in µF unless otherwise noted. p = µµF
- All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- ⏚ indicates chassis ground.
- Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal. Readings are in stop mode with a VOM (DC 20 kΩ/V, AC 8 kΩ/V), with TAPE SPEED switch to 19 cm 7 ½.
- Voltage variations may be noted due to normal production tolerances.

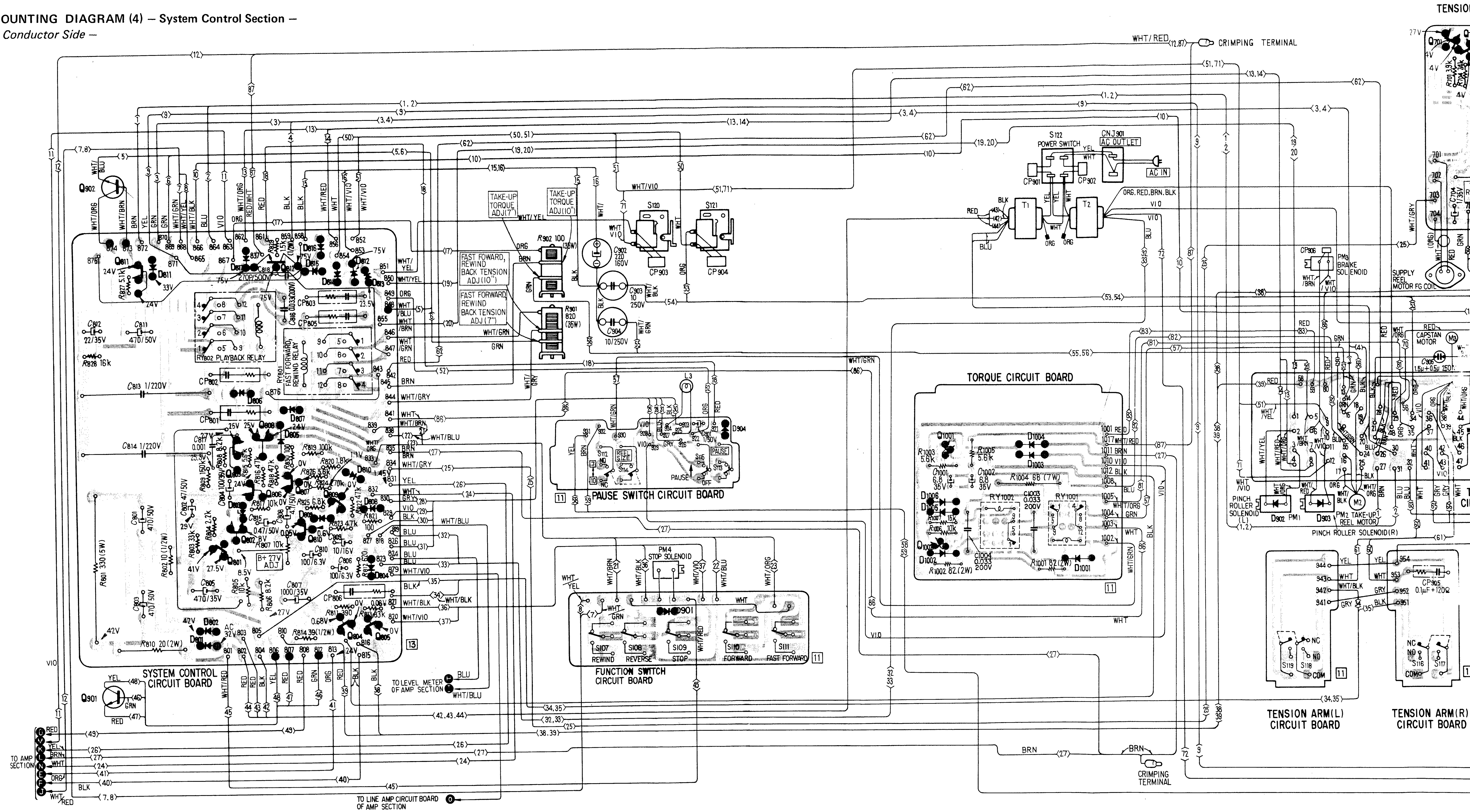
○ **Switch Mode**

Ref. No.	Switch	Mode
S107, 108	rewind	OFF
S109	stop	OFF
S110	playback	OFF
S111	fast forward	OFF
S112, 114	REEL SIZE	10 ½
S113, 115	PAUSE	OFF
S116, 117	tension arm R	OFF
S118, 119	tension arm L	OFF
S120	PM1 drive	ON
S121	PM3 drive	ON
S122	POWER	OFF
S501	TAPE SPEED	19 cm 7 ½

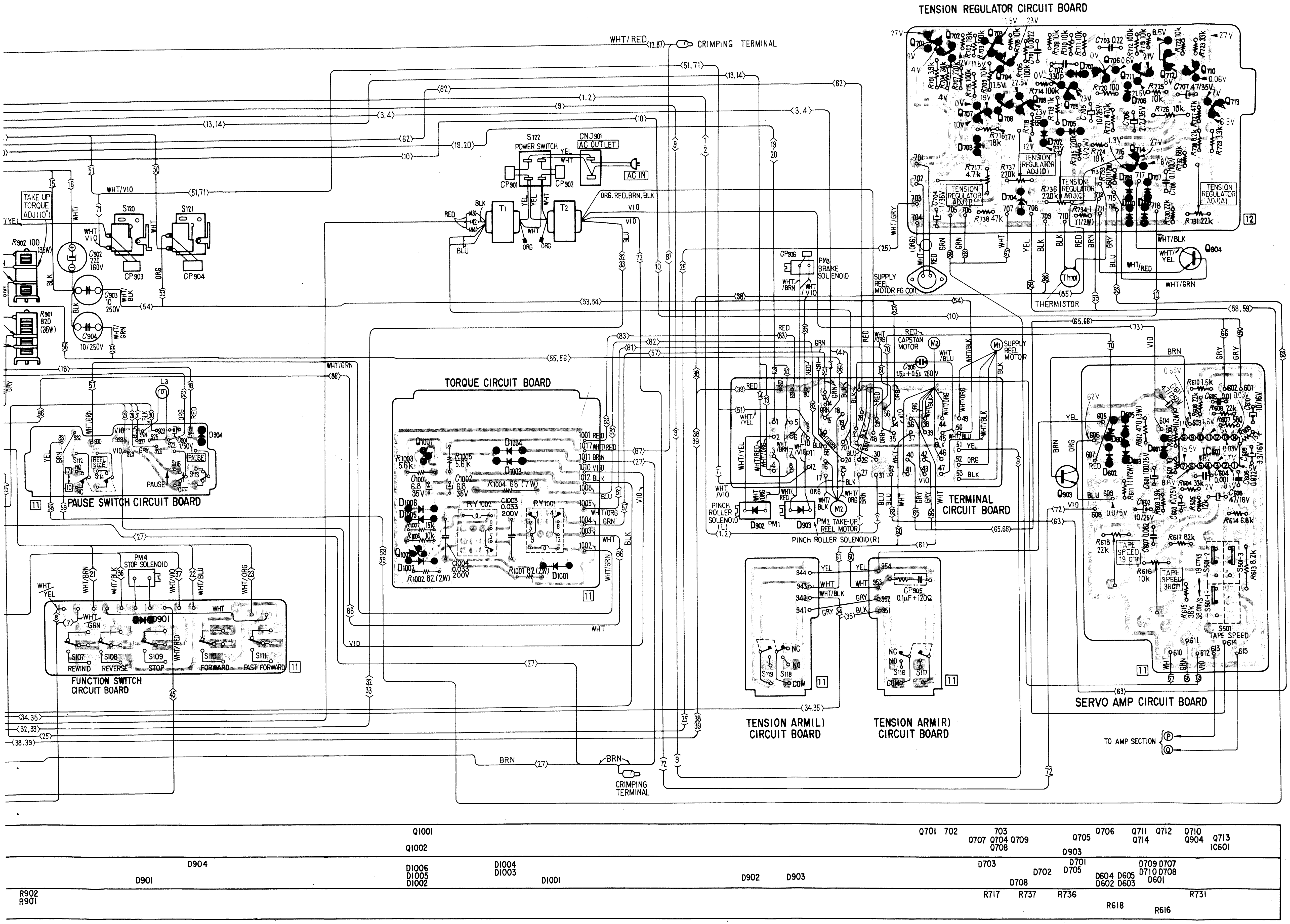
- CP801 ~ 806 : 0.033µ + 120Ω / 500V
- CP901 ~ 906 : 0.1µ + 120Ω / 500V

12. MOUNTING DIAGRAM (4) – System Control Section –

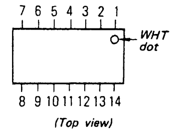
– Conductor Side –


TENSIO
WHT/RED
CRIMPING TERMINAL
S122 POWER SWITCH
CNJ901 AC OUTLET
AC IN
CP901
CP902
T1
T2
TAKE-UP TORQUE ADJ(7")
TAKE-UP TORQUE ADJ(10")
FAST FOWARD, REWIND BACK TENSION ADJ(10")
FAST FORWARD, REWIND BACK TENSION ADJ(7")
R902 100 (36W)
R901 820 (36W)
S120
S121
CP903
CP904
C902 220 160V
C903 10 250V
C904 10/250V
Q902
Q901
RY802 PLAYBACK RELAY
RY801 FAST FORWARD, REWIND RELAY
B+ 27V ADJ
SYSTEM CONTROL CIRCUIT BOARD
TO LEVEL METER OF AMP SECTION
TO AMP SECTION
TO LINE AMP CIRCUIT BOARD OF AMP SECTION
PAUSE SWITCH CIRCUIT BOARD
PM4 STOP SOLENOID
S107 REWIND
S108 REVERSE
S109 STOP
S110 FORWARD
S111 FAST FORWARD
FUNCTION SWITCH CIRCUIT BOARD
TORQUE CIRCUIT BOARD
RY1002
RY1001
R1004 68 (7W)
PM3 BRAKE SOLENOID
SUPPLY REEL MOTOR FG COIL
CAPSTAN MOTOR
PINCH ROLLER SOLENOID (L)
PM1
PM2 TAKE-UP REEL MOTOR
PINCH ROLLER SOLENOID(R)
TENSION ARM(L) CIRCUIT BOARD
TENSION ARM(R) CIRCUIT BOARD
BRN
CRIMPING TERMINAL

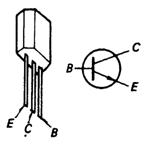
Q, IC	Q902 Q811 Q901 Q803 Q802 Q801 Q808 Q806 Q812 Q807 Q809 Q810 Q804 Q805 Q1001 Q1002 Q701
D	D811 D802 D801 D817 D806 D803 D807 D805 D816 D815 D809 D814 D812 D813 D810 D808 D804 D901 D904 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903
ADJ	R902 R901


TENSION REGULATOR CIRCUIT BOARD
TORQUE CIRCUIT BOARD
PAUSE SWITCH CIRCUIT BOARD
FUNCTION SWITCH CIRCUIT BOARD
TERMINAL BOARD
SERVO AMP CIRCUIT BOARD
TENSION ARM(L) CIRCUIT BOARD
TENSION ARM(R) CIRCUIT BOARD
CRIMPING TERMINAL
S122 POWER SWITCH
CNJ901 AC OUTLET
AC IN
TAKE-UP TORQUE ADJ(10")
PM3 BRAKE SOLENOID
SUPPLY REEL MOTOR FG COIL
THERMISTOR
CAPSTAN MOTOR
SUPPLY REEL MOTOR
PINCH ROLLER SOLENOID (L)
PM2 TAKE-UP REEL MOTOR
PINCH ROLLER SOLENOID(R)
PM4 STOP SOLENOID
S107 REWIND
S108 REVERSE
S109 STOP
S110 FORWARD
S111 FAST FORWARD
TENSION REGULATOR ADJ(A)
TENSION REGULATOR ADJ(B)
TENSION REGULATOR ADJ(C)
TENSION REGULATOR ADJ(D)
TAPE SPEED 19 cm
TAPE SPEED 38 cm
S501 TAPE SPEED
TO AMP SECTION
Q1001 Q1002
D904 D901 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903
Q701 702 703 Q707 Q704 Q709 Q708 Q705 Q903 Q706 Q711 Q712 Q714 Q710 Q904 Q713 IC601
D703 D702 D708 D701 D705 D604 D605 D602 D603 D709 D707 D710 D708 D601
R902 R901 R717 R737 R736 R618 R616 R731

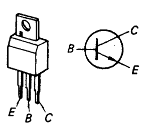
IC601 : CX032B


7 6 5 4 3 2 1
WHT dot
8 9 10 11 12 13 14
(Top view)

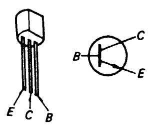
Q701 ～713,
801 ～811,
1001, 1002 : 2SC634A



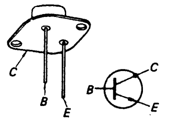
Q812 : 2SC1124



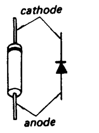
Q714 : 2SC1384



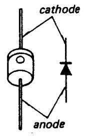
Q903, 904 : 2SC867
Q901, 902 : 2SD291



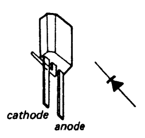
D705, 706, 809, 810 : 1T22
D701, 702, 804, 805,
808, 1003 ～1006 : 1T40


cathode
anode

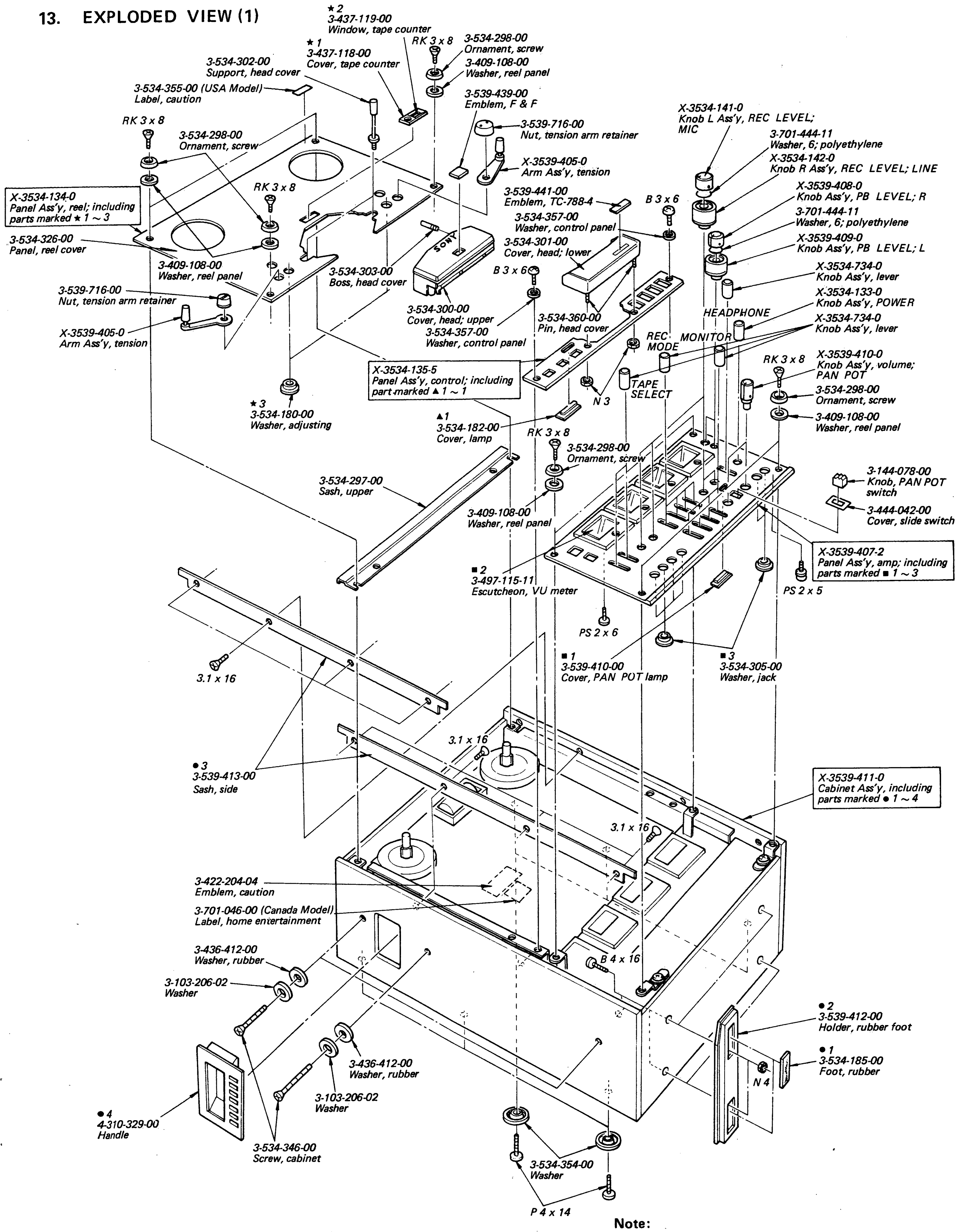
D601 ～605,
707 ～710,
801, 802, 806, 807,
811 ～817,
901 ～904,
1001, 1002 : 10D-2


cathode
anode

D703, 803 : MZ08
D704 : MZ12


cathode
anode

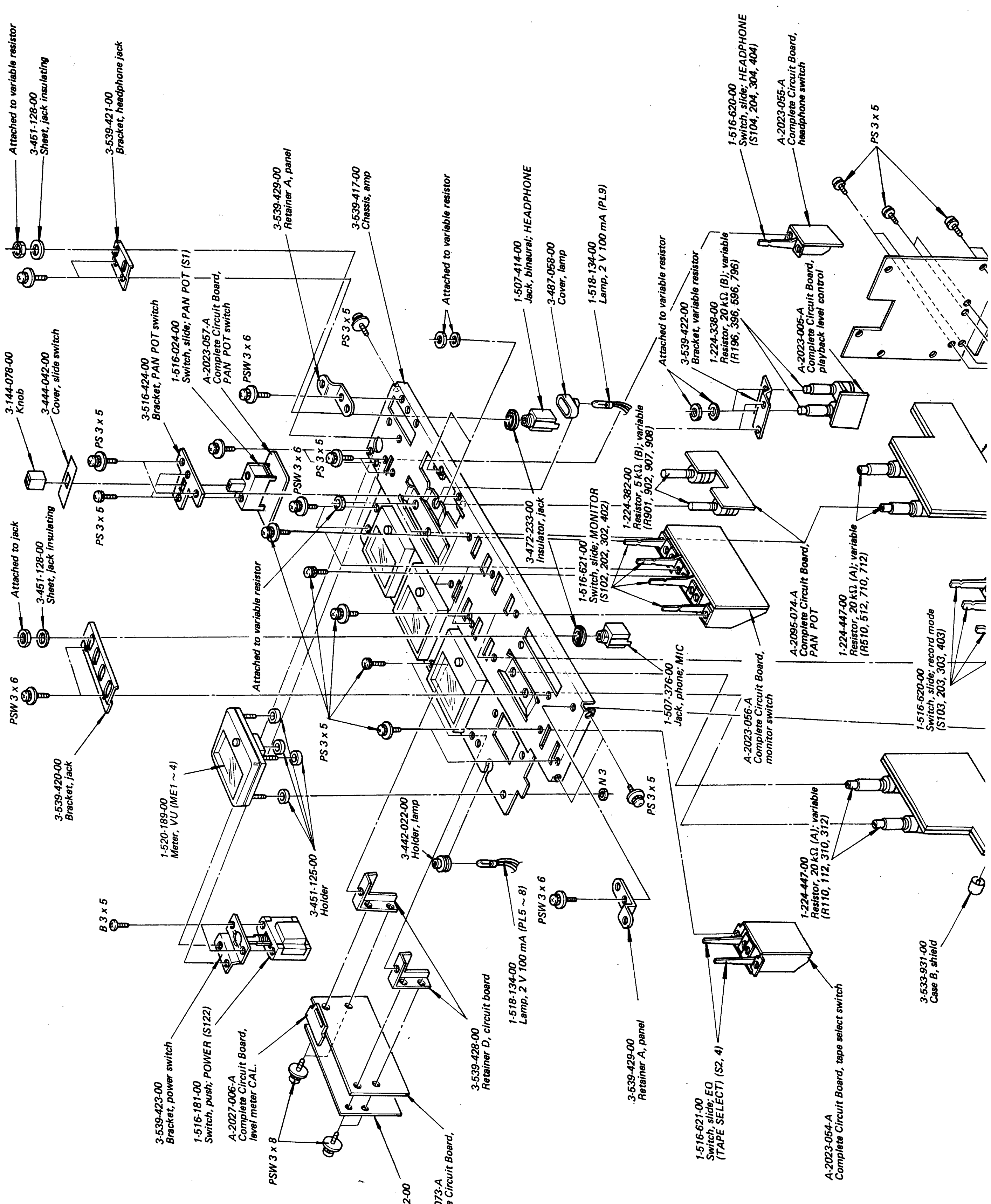
13. EXPLODED VIEW (1)


★2 3-437-119-00 Window, tape counter
★1 3-437-118-00 Cover, tape counter
RK 3 x 8
3-534-298-00 Ornament, screw
3-409-108-00 Washer, reel panel
3-534-302-00 Support, head cover
3-534-355-00 (USA Model) Label, caution
RK 3 x 8
3-534-298-00 Ornament, screw
3-539-439-00 Emblem, F & F
3-539-716-00 Nut, tension arm retainer
X-3539-405-0 Arm Ass'y, tension
RK 3 x 8
X-3534-134-0 Panel Ass'y, reel; including parts marked ★ 1 ~ 3
3-534-326-00 Panel, reel cover
3-409-108-00 Washer, reel panel
3-534-303-00 Boss, head cover
3-539-716-00 Nut, tension arm retainer
X-3539-405-0 Arm Ass'y, tension
3-539-441-00 Emblem, TC-788-4
B 3 x 6
3-534-357-00 Washer, control panel
3-534-301-00 Cover, head; lower
B 3 x 6
3-534-300-00 Cover, head; upper
3-534-357-00 Washer, control panel
3-534-360-00 Pin, head cover
X-3534-141-0 Knob L Ass'y, REC LEVEL; MIC
3-701-444-11 Washer, 6; polyethylene
X-3534-142-0 Knob R Ass'y, REC LEVEL; LINE
X-3539-408-0 Knob Ass'y, PB LEVEL; R
3-701-444-11 Washer, 6; polyethylene
X-3539-409-0 Knob Ass'y, PB LEVEL; L
X-3534-734-0 Knob Ass'y, lever
X-3534-133-0 Knob Ass'y, POWER
X-3534-734-0 Knob Ass'y, lever
HEADPHONE
REC MODE
MONITOR
TAPE SELECT
N 3
X-3534-135-5 Panel Ass'y, control; including part marked ▲1 ~ 1
RK 3 x 8
X-3539-410-0 Knob Ass'y, volume; PAN POT
3-534-298-00 Ornament, screw
3-409-108-00 Washer, reel panel
★3 3-534-180-00 Washer, adjusting
▲1 3-534-182-00 Cover, lamp
RK 3 x 8
3-534-298-00 Ornament, screw
3-534-297-00 Sash, upper
3-409-108-00 Washer, reel panel
3-144-078-00 Knob, PAN POT switch
3-444-042-00 Cover, slide switch
X-3539-407-2 Panel Ass'y, amp; including parts marked ■ 1 ~ 3
■2 3-497-115-11 Escutcheon, VU meter
PS 2 x 5
PS 2 x 6
■1 3-539-410-00 Cover, PAN POT lamp
■3 3-534-305-00 Washer, jack
3.1 x 16
3.1 x 16
●3 3-539-413-00 Sash, side
X-3539-411-0 Cabinet Ass'y, including parts marked ● 1 ~ 4
3.1 x 16
3-422-204-04 Emblem, caution
3-701-046-00 (Canada Model) Label, home entertainment
3-436-412-00 Washer, rubber
3-103-206-02 Washer
B 4 x 16
●2 3-539-412-00 Holder, rubber foot
●1 3-534-185-00 Foot, rubber
N 4
3-436-412-00 Washer, rubber
3-103-206-02 Washer
●4 4-310-329-00 Handle
3-534-346-00 Screw, cabinet
3-534-354-00 Washer
P 4 x 14

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted. (–) = slotted head

14. EXPLODED VIEW (2)


Attached to variable resistor
3-451-128-00 Sheet, jack insulating
3-539-421-00 Bracket, headphone jack
3-539-429-00 Retainer A, panel
3-539-417-00 Chassis, amp
Attached to variable resistor
1-507-414-00 Jack, binaural; HEADPHONE
3-487-058-00 Cover, lamp
1-518-134-00 Lamp, 2 V 100 mA (PL9)
Attached to variable resistor
3-539-422-00 Bracket, variable resistor
1-224-338-00 Resistor, 20 kΩ (B); variable (R196, 396, 596, 796)
1-516-620-00 Switch, slide; HEADPHONE (S104, 204, 304, 404)
A-2023-055-A Complete Circuit Board, headphone switch
A-2023-005-A Complete Circuit Board, playback level control
PS 3 x 5
3-144-078-00 Knob
3-444-042-00 Cover, slide switch
PS 3 x 5
PS 3 x 5
3-516-424-00 Bracket, PAN POT switch
1-516-024-00 Switch, slide; PAN POT (S1)
A-2023-057-A Complete Circuit Board, PAN POT switch
PSW 3 x 6
PSW 3 x 6
PS 3 x 5
PS 3 x 5
1-224-382-00 Resistor, 5 kΩ (B); variable (R901, 902, 907, 908)
3-472-233-00 Insulator, jack
1-516-621-00 Switch, slide; MONITOR (S102, 202, 302, 402)
A-2095-074-A Complete Circuit Board, PAN POT
1-224-447-00 Resistor, 20 kΩ (A); variable (R510, 512, 710, 712)
1-516-620-00 Switch, slide; record mode (S103, 203, 303, 403)
Attached to jack
3-451-128-00 Sheet, jack insulating
PSW 3 x 6
3-539-420-00 Bracket, jack
Attached to variable resistor
1-520-189-00 Meter, VU (ME1 ~ 4)
PS 3 x 5
3-451-125-00 Holder
3-442-022-00 Holder, lamp
1-507-376-00 Jack, phone; MIC
A-2023-056-A Complete Circuit Board, monitor switch
N 3
PS 3 x 5
1-224-447-00 Resistor, 20 kΩ (A); variable (R110, 112, 310, 312)
B 3 x 5
(PL5 ~ 8)
PSW 3 x 6
3-533-931-00 Case B, shield
3-539-423-00 Bracket, power switch
1-516-181-00 Switch, push; POWER (S122)
A-2027-006-A Complete Circuit Board, level meter CAL.
PSW 3 x 8
3-539-452-00 Shield C
A-2095-073-A Complete Circuit Board, line amp
3-539-428-00 Retainer D, circuit board
1-518-134-00 Lamp, 2 V 100 mA
3-539-429-00 Retainer A, panel
1-516-621-00 Switch, slide; EQ (TAPE SELECT) (S2, 4)
A-2023-054-A Complete Circuit Board, tape select switch

14. EXPLODED VIEW (2)

ethylene

REC LEVEL; LINE

08-0

'y, PB LEVEL; R

1-11

; polyethylene

09-0

'y, PB LEVEL; L

34-734-0

Ass'y, lever

34-133-0

Ass'y, POWER

34-734-0

Ass'y, lever

39-410-0

Ass'y, volume; POT

1-298-00

ment, screw

1-108-00

er, reel panel

3-144-078-00 Knob, PAN POT switch

3-444-042-00 Cover, slide switch

39-407-2

Ass'y, amp; including marked ■ 1 ~ 3

39-411-0

net Ass'y, including marked ● 1 ~ 4

9-412-00

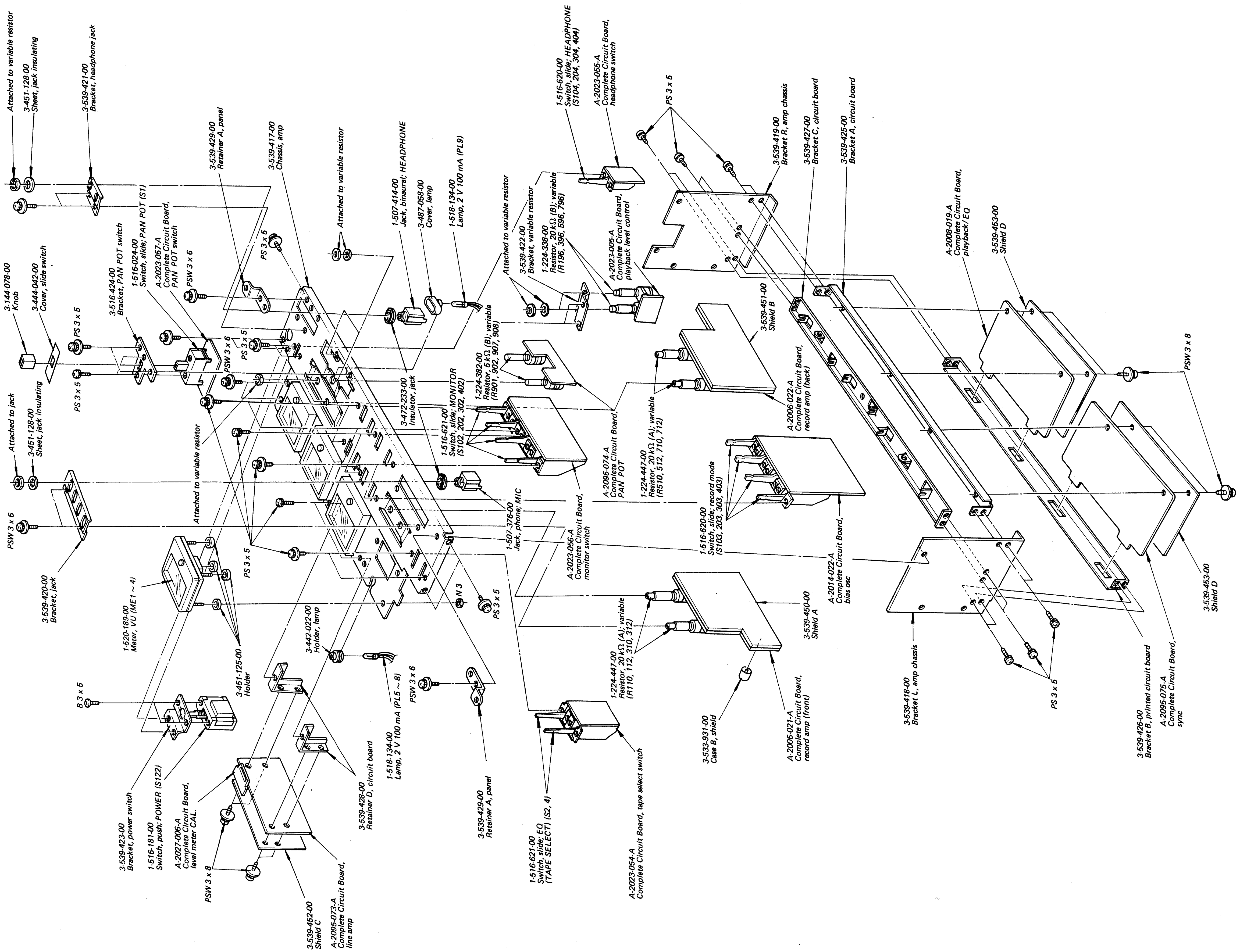
er, rubber foot

4-185-00

, rubber

i description

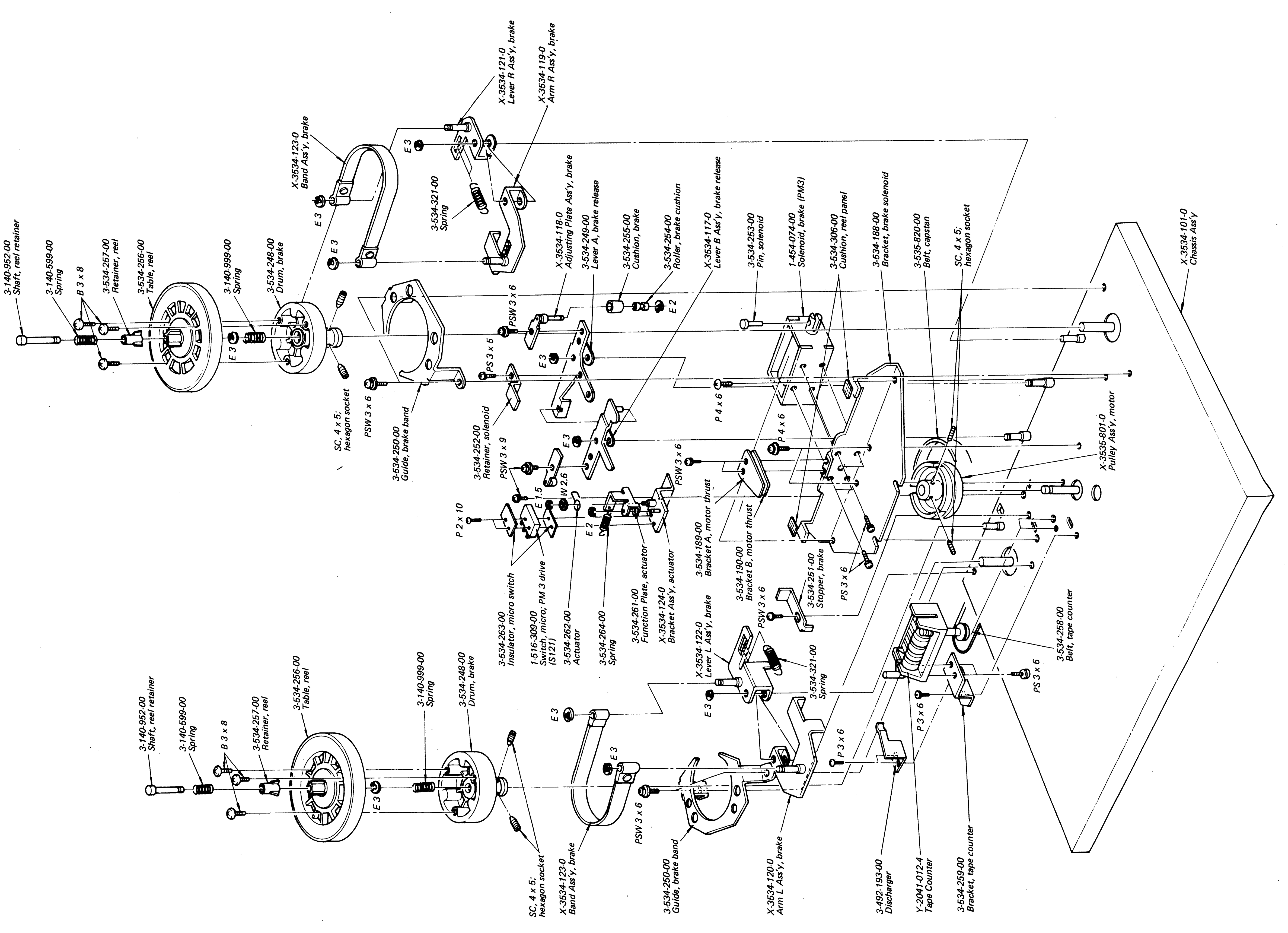
recess) type



Attached to variable resistor
3-451-128-00 Sheet, jack insulating
3-539-421-00 Bracket, headphone jack
3-539-429-00 Retainer A, panel
3-539-417-00 Chassis, amp
Attached to variable resistor
1-507-414-00 Jack, binaural; HEADPHONE
3-487-058-00 Cover, lamp
1-518-134-00 Lamp, 2 V 100 mA (PL9)
Attached to variable resistor
3-539-422-00 Bracket, variable resistor
1-224-338-00 Resistor, 20 kΩ (B); variable (R196, 396, 596, 796)
1-516-620-00 Switch, slide; HEADPHONE (S104, 204, 304, 404)
A-2023-055-A Complete Circuit Board, headphone switch
A-2023-005-A Complete Circuit Board, playback level control
PS 3 x 5
3-539-419-00 Bracket R, amp chassis
3-539-427-00 Bracket C, circuit board
3-539-425-00 Bracket A, circuit board
A-2008-019-A Complete Circuit Board, playback/EQ
3-539-453-00 Shield D
PSW 3 x 8
3-144-078-00 Knob
3-444-042-00 Cover, slide switch
PS 3 x 5
PS 3 x 5
3-516-424-00 Bracket, PAN POT switch
1-516-024-00 Switch, slide; PAN POT (S1)
A-2023-057-A Complete Circuit Board, PAN POT switch
PSW 3 x 6
PS 3 x 5
PSW 3 x 6
PS 3 x 5
3-472-233-00 Insulator, jack
1-516-621-00 Switch, slide; MONITOR (S102, 202, 302, 402)
1-224-382-00 Resistor, 5 kΩ (B); variable (R901, 902, 907, 908)
A-2095-074-A Complete Circuit Board, PAN POT
1-224-447-00 Resistor, 20 kΩ (A); variable (R510, 512, 710, 712)
3-539-451-00 Shield B
A-2006-022-A Complete Circuit Board, record amp (back)
1-516-620-00 Switch, slide; record mode (S103, 203, 303, 403)
A-2014-022-A Complete Circuit Board, bias osc
Attached to jack
3-451-128-00 Sheet, jack insulating
PSW 3 x 6
3-539-420-00 Bracket, jack
Attached to variable resistor
PS 3 x 5
1-507-376-00 Jack, phone; MIC
A-2023-056-A Complete Circuit Board, monitor switch
1-520-189-00 Meter, VU (ME1 ~ 4)
3-451-125-00 Holder
3-442-022-00 Holder, lamp
N 3
PS 3 x 5
1-224-447-00 Resistor, 20 kΩ (A); variable (R110, 112, 310, 312)
3-539-450-00 Shield A
3-533-931-00 Case B, shield
A-2006-021-A Complete Circuit Board, record amp (front)
3-539-418-00 Bracket L, amp chassis
PS 3 x 5
3-539-426-00 Bracket B, printed circuit board
A-2095-075-A Complete Circuit Board, sync
3-539-453-00 Shield D
B 3 x 5
PSW 3 x 6
(PL5 ~ 8)
1-518-134-00 Lamp, 2 V 100 mA
3-539-428-00 Retainer D, circuit board
3-539-429-00 Retainer A, panel
1-516-621-00 Switch, slide; EQ (TAPE SELECT) (S2, 4)
A-2023-054-A Complete Circuit Board, tape select switch
3-539-423-00 Bracket, power switch
1-516-181-00 Switch, push; POWER (S122)
A-2027-006-A Complete Circuit Board, level meter CAL.
PSW 3 x 8
3-539-452-00 Shield C
A-2095-073-A Complete Circuit Board, line amp

Note:
- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted. (−) = slotted head

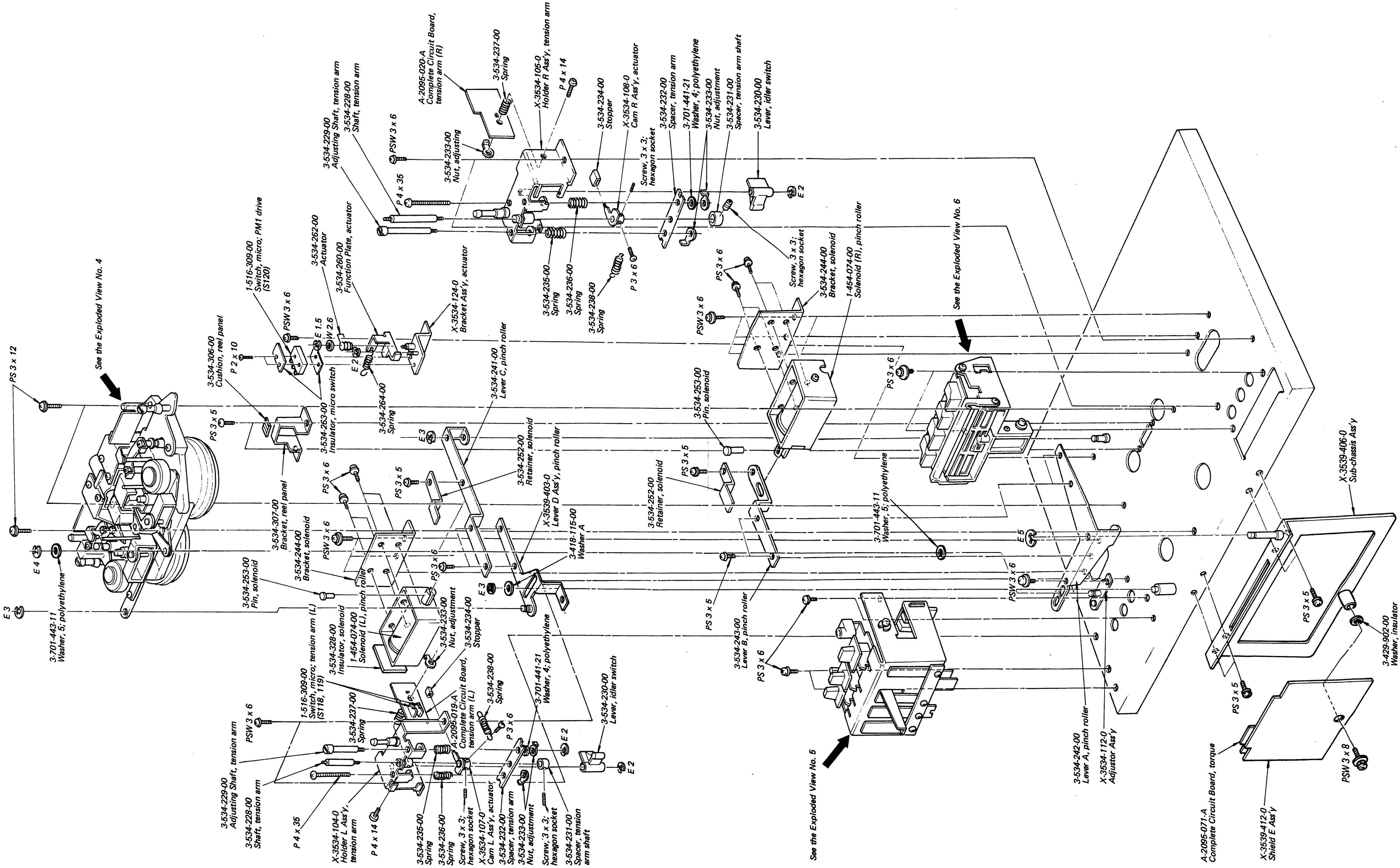
15. EXPLODED VIEW (3)


3-140-952-00 Shaft, reel retainer
3-140-599-00 Spring
B 3 x 8
3-534-257-00 Retainer, reel
3-534-256-00 Table, reel
3-140-999-00 Spring
3-534-248-00 Drum, brake
E 3
X-3534-123-0 Band Ass'y, brake
E 3
E 3
SC, 4 x 5; hexagon socket
PSW 3 x 6
3-534-250-00 Guide, brake band
3-534-321-00 Spring
E 3
X-3534-121-0 Lever R Ass'y, brake
X-3534-119-0 Arm R Ass'y, brake
PSW 3 x 6
PS 3 x 5
E 3
X-3534-118-0 Adjusting Plate Ass'y, brake
3-534-249-00 Lever A, brake release
3-534-255-00 Cushion, brake
3-534-254-00 Roller, brake cushion
E 2
X-3534-117-0 Lever B Ass'y, brake release
3-534-252-00 Retainer, solenoid
PSW 3 x 9
E 3
W 2.6
E 1.5
P 2 x 10
E 2
PSW 3 x 6
3-534-263-00 Insulator, micro switch
1-516-309-00 Switch, micro; PM 3 drive (S121)
3-534-262-00 Actuator
3-534-264-00 Spring
3-534-261-00 Function Plate, actuator
X-3534-124-0 Bracket Ass'y, actuator
3-534-189-00 Bracket A, motor thrust
3-534-190-00 Bracket B, motor thrust
P 4 x 6
P 4 x 6
3-534-253-00 Pin, solenoid
1-454-074-00 Solenoid, brake (PM3)
3-534-306-00 Cushion, reel panel
3-534-188-00 Bracket, brake solenoid
3-535-820-00 Belt, capstan
SC, 4 x 5; hexagon socket
X-3534-101-0 Chassis Ass'y
X-3535-801-0 Pulley Ass'y, motor
3-534-251-00 Stopper, brake
PS 3 x 6
PSW 3 x 6
X-3534-122-0 Lever L Ass'y, brake
3-534-321-00 Spring
E 3
3-534-258-00 Belt, tape counter
PS 3 x 6
P 3 x 6
P 3 x 6
3-140-952-00 Shaft, reel retainer
3-140-599-00 Spring
B 3 x 8
3-534-257-00 Retainer, reel
3-534-256-00 Table, reel
E 3
3-140-999-00 Spring
3-534-248-00 Drum, brake
E 3
E 3
SC, 4 x 5; hexagon socket
X-3534-123-0 Band Ass'y, brake
PSW 3 x 6
3-534-250-00 Guide, brake band
X-3534-120-0 Arm L Ass'y, brake
3-492-193-00 Discharger
Y-2041-012-4 Tape Counter
3-534-259-00 Bracket, tape counter

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

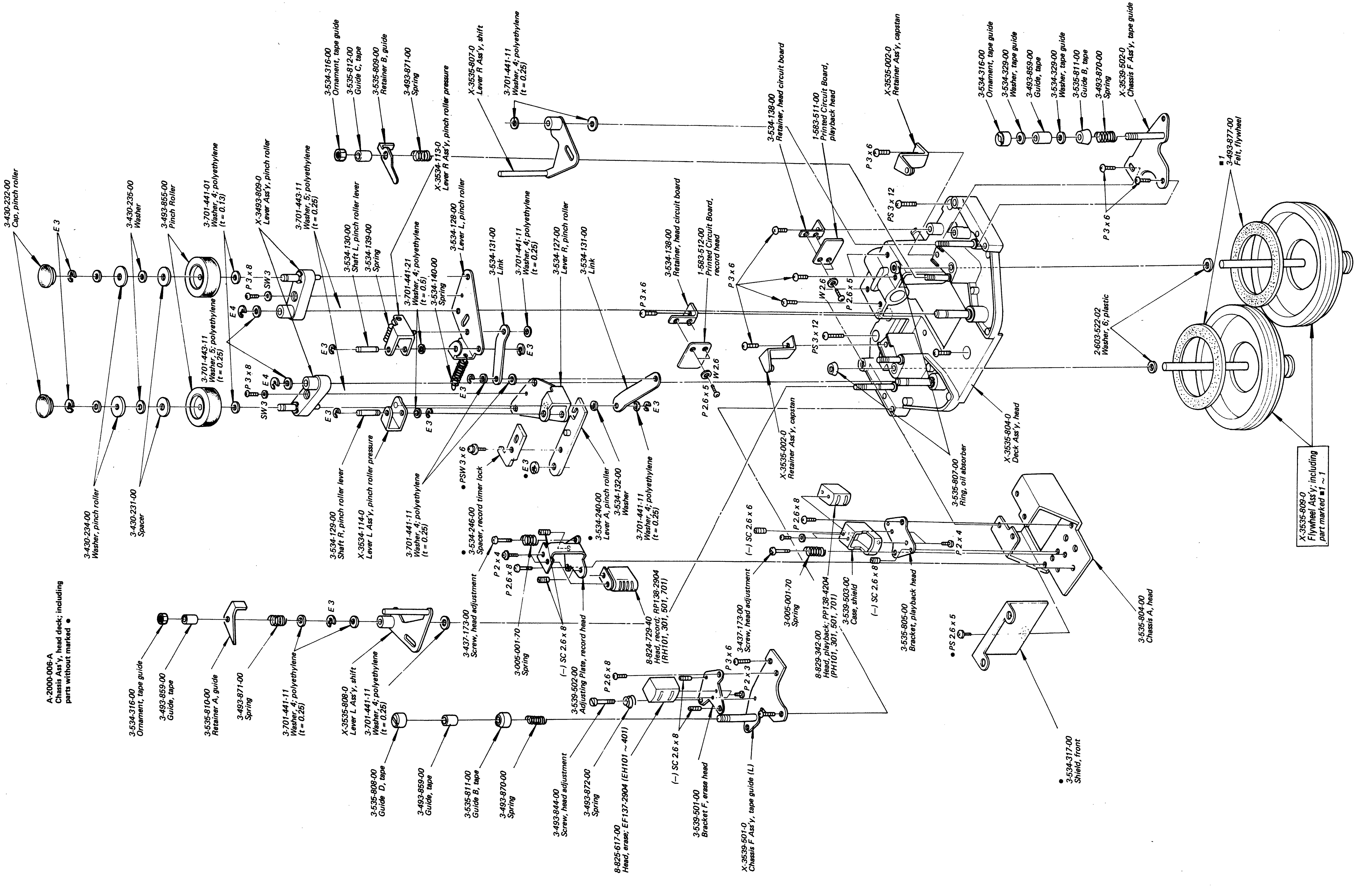
16. EXPLODED VIEW (4)


A-2095-020-A Complete Circuit Board, tension arm (R)
3-534-237-00 Spring
X-3534-105-0 Holder R Ass'y, tension arm
P 4 x 14
3-534-229-00 Adjusting Shaft, tension arm
3-534-228-00 Shaft, tension arm
PSW 3 x 6
3-534-233-00 Nut, adjusting
P 4 x 35
3-534-234-00 Stopper
X-3534-108-0 Cam R Ass'y, actuator
Screw, 3 x 3; hexagon socket
3-534-232-00 Spacer, tension arm
3-701-441-21 Washer, 4; polyethylene
3-534-233-00 Nut, adjustment
3-534-231-00 Spacer, tension arm shaft
3-534-230-00 Lever, idler switch
E 2
3-534-235-00 Spring
3-534-236-00 Spring
3-534-238-00 Spring
P 3 x 6
Screw, 3 x 3; hexagon socket
3-534-244-00 Bracket, solenoid
1-454-074-00 Solenoid (R), pinch roller
PS 3 x 6
PSW 3 x 6
See the Exploded View No. 6
1-516-309-00 Switch, micro; PM1 drive (S120)
3-534-262-00 Actuator
3-534-260-00 Function Plate, actuator
X-3534-124-0 Bracket Ass'y, actuator
PSW 3 x 6
E 1.5
W 2.6
E 2
3-534-306-00 Cushion, reel panel
P 2 x 10
See the Exploded View No. 4
PS 3 x 12
3-534-264-00 Spring
3-534-241-00 Lever C, pinch roller
3-534-263-00 Insulator, micro switch
PS 3 x 5
E 3
3-534-253-00 Pin, solenoid
PS 3 x 6
PS 3 x 5
3-534-252-00 Retainer, solenoid
X-3539-403-0 Lever D Ass'y, pinch roller
3-418-115-00 Washer A
3-534-307-00 Bracket, reel panel
3-534-244-00 Bracket, solenoid
PSW 3 x 6
PS 3 x 6
E 4
E 3
3-701-443-11 Washer, 5; polyethylene
3-534-253-00 Pin, solenoid
3-534-328-00 Insulator, solenoid
1-454-074-00 Solenoid (L), pinch roller
3-534-233-00 Nut, adjustment
3-534-234-00 Stopper
E 3
PS 3 x 5
3-534-252-00 Retainer, solenoid
PS 3 x 5
3-701-443-11 Washer, 5; polyethylene
E 5
PSW 3 x 6
3-534-243-00 Lever B, pinch roller
PS 3 x 6
PS 3 x 6
See the Exploded View No. 5
X-3539-406-0 Sub-chassis Ass'y
PS 3 x 5
3-429-902-00 Washer, insulator
PS 3 x 5
PSW 3 x 8
A-2095-071-A Complete Circuit Board, torque
X-3539-412-0 Shield E Ass'y
3-534-242-00 Lever A, pinch roller
X-3534-112-0 Adjustor Ass'y
1-516-309-00 Switch, micro; tension arm (L) (S118, 119)
3-534-237-00 Spring
A-2095-019-A Complete Circuit Board, tension arm (L)
3-534-238-00 Spring
P 3 x 6
3-701-441-21 Washer, 4; polyethylene
E 2
3-534-230-00 Lever, idler switch
E 2
PSW 3 x 6
3-534-229-00 Adjusting Shaft, tension arm
3-534-228-00 Shaft, tension arm
P 4 x 35
X-3534-104-0 Holder L Ass'y, tension arm
P 4 x 14
3-534-235-00 Spring
3-534-236-00 Spring
Screw, 3 x 3; hexagon socket
X-3534-107-0 Cam L Ass'y, actuator
3-534-232-00 Spacer, tension arm
3-534-233-00 Nut, adjustment
Screw, 3 x 3; hexagon socket
3-534-231-00 Spacer, tension arm shaft

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

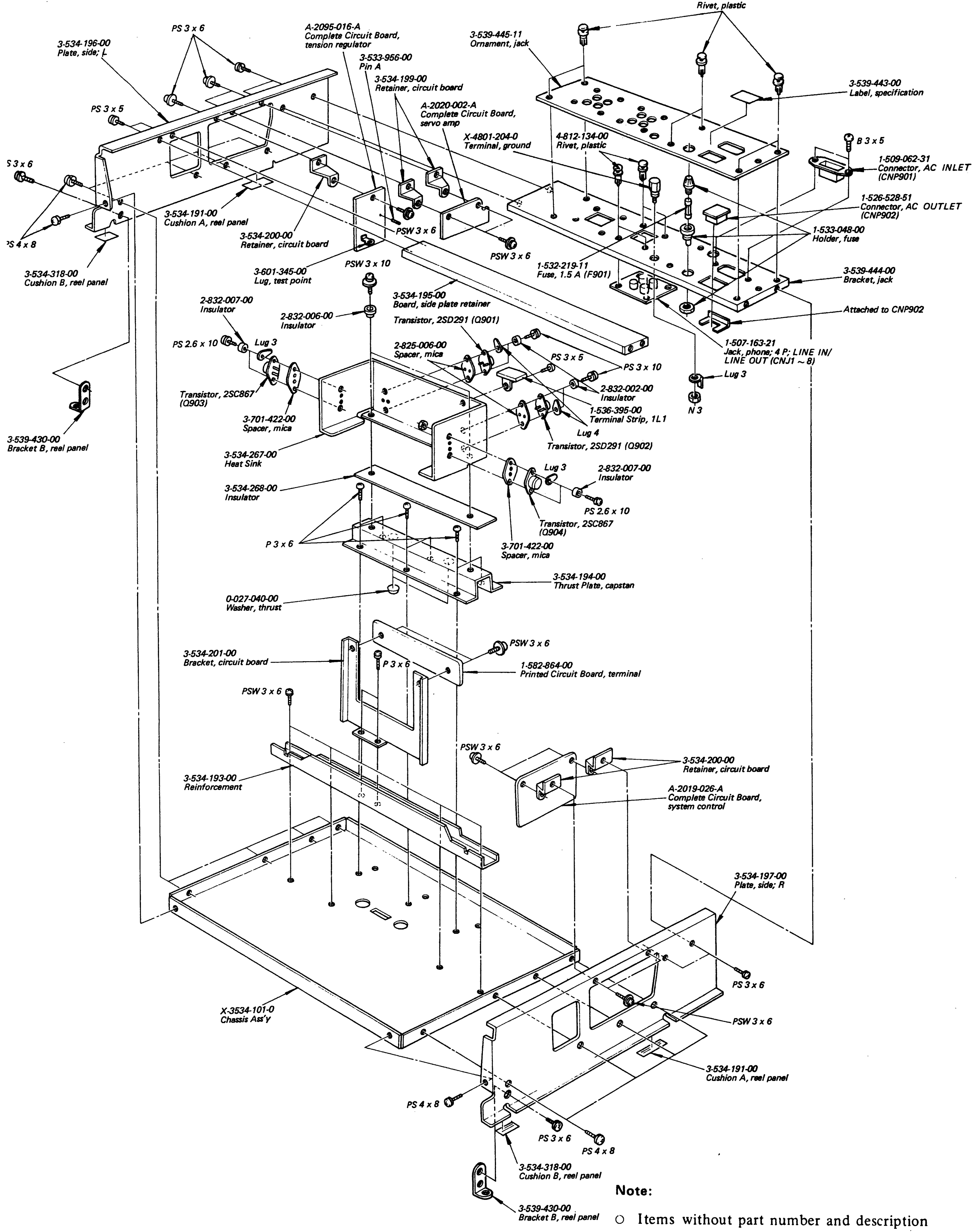
17. EXPLODED VIEW (5)


3-430-222-00 Cap, pinch roller
E 3
3-430-235-00 Washer
3-493-855-00 Pinch Roller
3-701-441-01 Washer, 4; polyethylene (t = 0.13)
X-3493-809-0 Lever Ass'y, pinch roller
3-701-443-11 Washer, 5; polyethylene (t = 0.25)
3-534-130-00 Shaft L, pinch roller lever
3-534-139-00 Spring
3-701-441-21 Washer, 4; polyethylene (t = 0.5)
3-534-140-00 Spring
3-534-128-00 Lever L, pinch roller
3-534-131-00 Link
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
3-534-127-00 Lever R, pinch roller
3-534-131-00 Link
3-534-316-00 Ornament, tape guide
3-535-812-00 Guide C, tape
3-535-809-00 Retainer B, guide
3-493-871-00 Spring
X-3534-113-0 Lever R Ass'y, pinch roller pressure
X-3535-807-0 Lever R Ass'y, shift
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
3-534-138-00 Retainer, head circuit board
1-583-512-00 Printed Circuit Board, record head
3-534-138-00 Retainer, head circuit board
1-583-511-00 Printed Circuit Board, playback head
X-3535-002-0 Retainer Ass'y, capstan
3-534-316-00 Ornament, tape guide
3-534-329-00 Washer, tape guide
3-493-859-00 Guide, tape
3-534-329-00 Washer, tape guide
3-535-811-00 Guide B, tape
3-493-870-00 Spring
X-3539-502-0 Chassis F Ass'y, tape guide (R)
■1 3-493-877-00 Felt, flywheel
2-603-522-02 Washer, 6; plastic
X-3536-809-0 Flywheel Ass'y, including part marked ■1 ~ 1
X-3535-804-0 Deck Ass'y, head
3-535-807-00 Ring, oil absorber
X-3535-002-0 Retainer Ass'y, capstan
P 3 x 8
SW 3
E 4
P 3 x 6
PS 3 x 12
P 2.6 x 5
W 2.6
3-701-443-11 Washer, 5; polyethylene (t = 0.25)
3-430-234-00 Washer, pinch roller
3-430-231-00 Spacer
3-534-129-00 Shaft R, pinch roller lever
X-3534-114-0 Lever L Ass'y, pinch roller pressure
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
● PSW 3 x 6
3-534-246-00 Spacer, record timer lock
3-534-240-00 Lever A, pinch roller
3-534-132-00 Washer
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
A-2000-006-A Chassis Ass'y, head deck; including parts without marked ●
3-534-316-00 Ornament, tape guide
3-493-859-00 Guide, tape
3-535-810-00 Retainer A, guide
3-493-871-00 Spring
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
X-3535-808-0 Lever L Ass'y, shift
3-701-441-11 Washer, 4; polyethylene (t = 0.25)
3-535-808-00 Guide D, tape
3-493-859-00 Guide, tape
3-535-811-00 Guide B, tape
3-493-870-00 Spring
3-437-173-00 Screw, head adjustment
P 2 x 4
P 2.6 x 8
3-005-001-70 Spring
(–) SC 2.6 x 8
3-539-502-00 Adjusting Plate, record head
8-824-729-40 Head, record; RP138-2904 (RH101, 301, 501, 701)
3-493-844-00 Screw, head adjustment
3-493-872-00 Spring
8-825-617-00 Head, erase; EF137-2904 (EH101 ~ 401)
(–) SC 2.6 x 8
3-539-501-00 Bracket F, erase head
X-3539-501-0 Chassis F Ass'y, tape guide (L)
P 3 x 6
P 2 x 3
(–) SC 2.6 x 6
P 2.6 x 8
3-437-173-00 Screw, head adjustment
3-005-001-70 Spring
8-829-342-00 Head, playback; PP138-4204 (PH101, 301, 501, 701)
3-539-503-00 Case, shield
(–) SC 2.6 x 8
3-535-805-00 Bracket, playback head
P 2 x 4
● PS 2.6 x 5
3-535-804-00 Chassis A, head
● 3-534-317-00 Shield, front

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

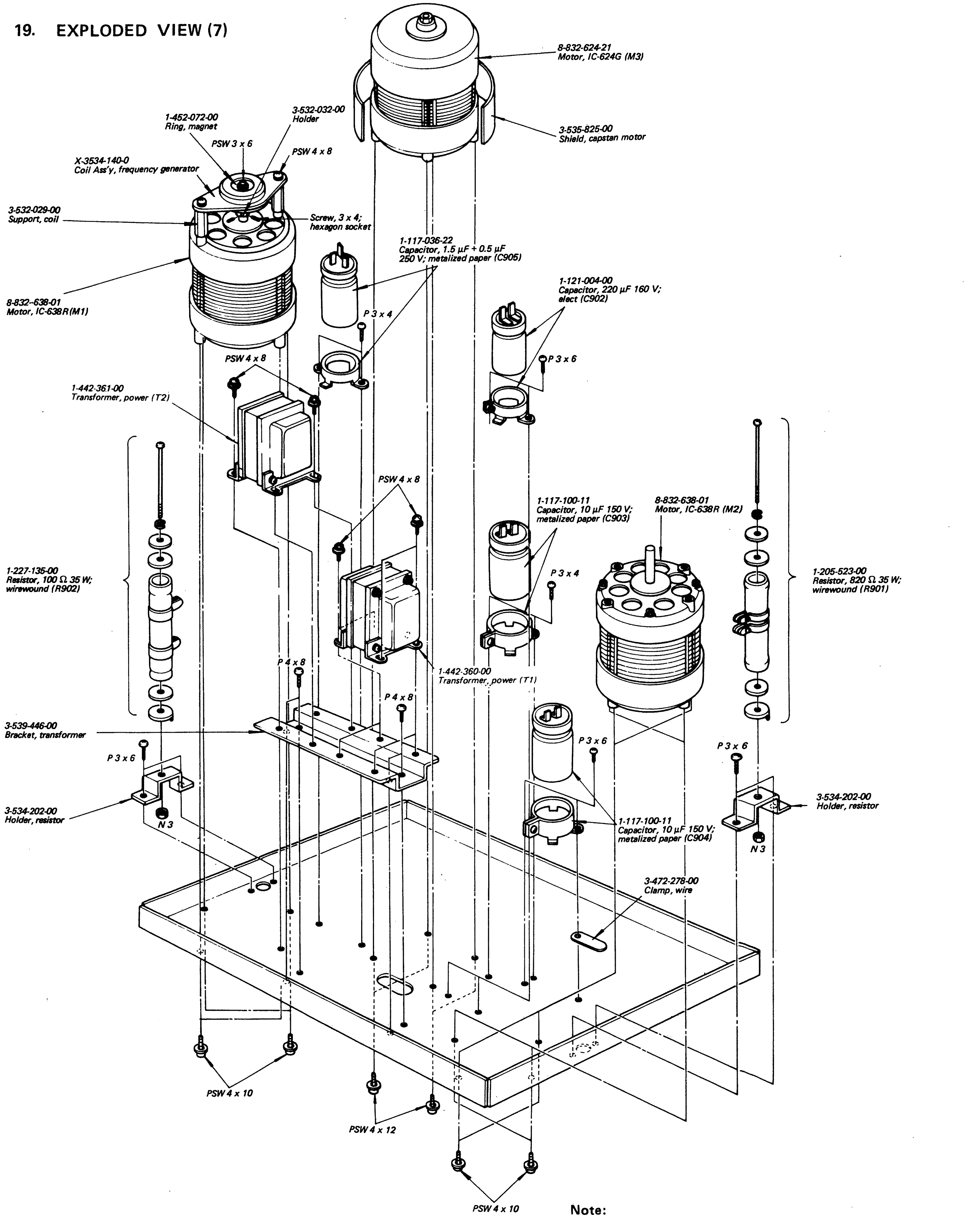
18. EXPLODED VIEW (6)


3-534-196-00
Plate, side; L
PS 3 x 6
PS 3 x 5
S 3 x 6
S 4 x 8
A-2095-016-A
Complete Circuit Board, tension regulator
3-533-956-00
Pin A
3-534-199-00
Retainer, circuit board
A-2020-002-A
Complete Circuit Board, servo amp
X-4801-204-0
Terminal, ground
3-539-445-11
Ornament, jack
4-812-134-00
Rivet, plastic
4-812-134-00
Rivet, plastic
3-539-443-00
Label, specification
B 3 x 5
1-509-062-31
Connector, AC INLET (CNP901)
1-526-528-51
Connector, AC OUTLET (CNP902)
1-533-048-00
Holder, fuse
3-539-444-00
Bracket, jack
Attached to CNP902
1-532-219-11
Fuse, 1.5 A (F901)
1-507-163-21
Jack, phone; 4 P; LINE IN/ LINE OUT (CNJ1 ~ 8)
Lug 3
N 3
3-534-191-00
Cushion A, reel panel
3-534-200-00
Retainer, circuit board
PSW 3 x 6
PSW 3 x 6
3-534-318-00
Cushion B, reel panel
3-601-345-00
Lug, test point
PSW 3 x 10
3-534-195-00
Board, side plate retainer
Transistor, 2SD291 (Q901)
2-832-007-00
Insulator
2-832-006-00
Insulator
PS 2.6 x 10
Lug 3
2-825-006-00
Spacer, mica
PS 3 x 5
PS 3 x 10
2-832-002-00
Insulator
1-536-395-00
Terminal Strip, 1L1
Lug 4
Transistor, 2SD291 (Q902)
Transistor, 2SC867 (Q903)
3-701-422-00
Spacer, mica
3-539-430-00
Bracket B, reel panel
3-534-267-00
Heat Sink
3-534-268-00
Insulator
Lug 3
2-832-007-00
Insulator
PS 2.6 x 10
Transistor, 2SC867 (Q904)
3-701-422-00
Spacer, mica
P 3 x 6
3-534-194-00
Thrust Plate, capstan
0-027-040-00
Washer, thrust
PSW 3 x 6
3-534-201-00
Bracket, circuit board
P 3 x 6
1-582-864-00
Printed Circuit Board, terminal
PSW 3 x 6
PSW 3 x 6
3-534-200-00
Retainer, circuit board
A-2019-026-A
Complete Circuit Board, system control
3-534-193-00
Reinforcement
3-534-197-00
Plate, side; R
PS 3 x 6
PSW 3 x 6
X-3534-101-0
Chassis Ass'y
3-534-191-00
Cushion A, reel panel
PS 4 x 8
PS 3 x 6
PS 4 x 8
3-534-318-00
Cushion B, reel panel
3-539-430-00
Bracket B, reel panel

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

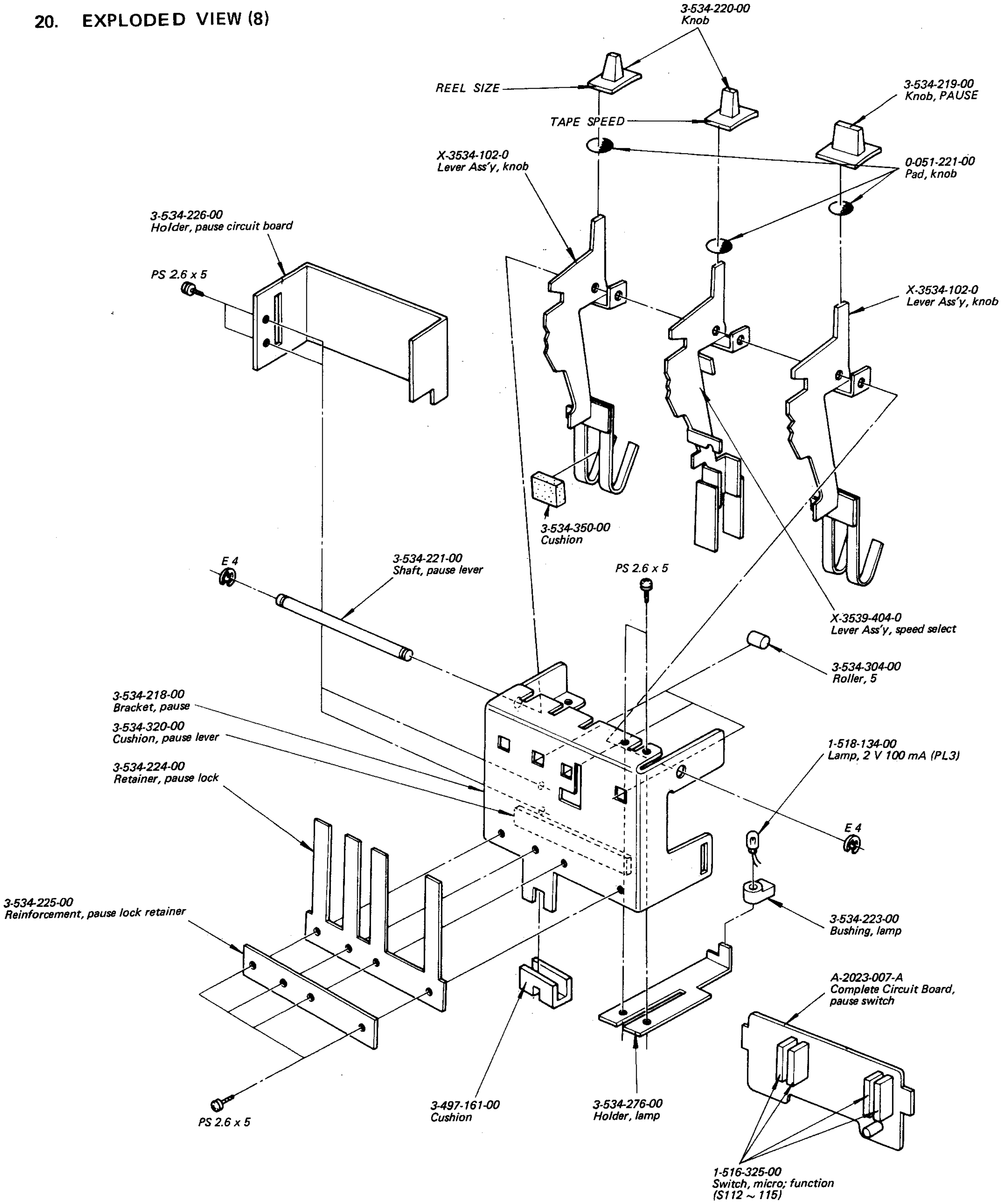
19. EXPLODED VIEW (7)


8-832-624-21
Motor, IC-624G (M3)
3-535-825-00
Shield, capstan motor
1-452-072-00
Ring, magnet
3-532-032-00
Holder
PSW 3 x 6
PSW 4 x 8
X-3534-140-0
Coil Ass'y, frequency generator
3-532-029-00
Support, coil
Screw, 3 x 4; hexagon socket
1-117-036-22
Capacitor, 1.5 µF + 0.5 µF 250 V; metalized paper (C905)
8-832-638-01
Motor, IC-638R (M1)
P 3 x 4
1-121-004-00
Capacitor, 220 µF 160 V; elect (C902)
P 3 x 6
PSW 4 x 8
1-442-361-00
Transformer, power (T2)
PSW 4 x 8
1-117-100-11
Capacitor, 10 µF 150 V; metalized paper (C903)
8-832-638-01
Motor, IC-638R (M2)
P 3 x 4
1-227-135-00
Resistor, 100 Ω 35 W; wirewound (R902)
1-205-523-00
Resistor, 820 Ω 35 W; wirewound (R901)
1-442-360-00
Transformer, power (T1)
P 4 x 8
P 4 x 8
3-539-446-00
Bracket, transformer
P 3 x 6
P 3 x 6
P 3 x 6
3-534-202-00
Holder, resistor
N 3
1-117-100-11
Capacitor, 10 µF 150 V; metalized paper (C904)
3-534-202-00
Holder, resistor
N 3
3-472-278-00
Clamp, wire
PSW 4 x 10
PSW 4 x 12
PSW 4 x 10

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

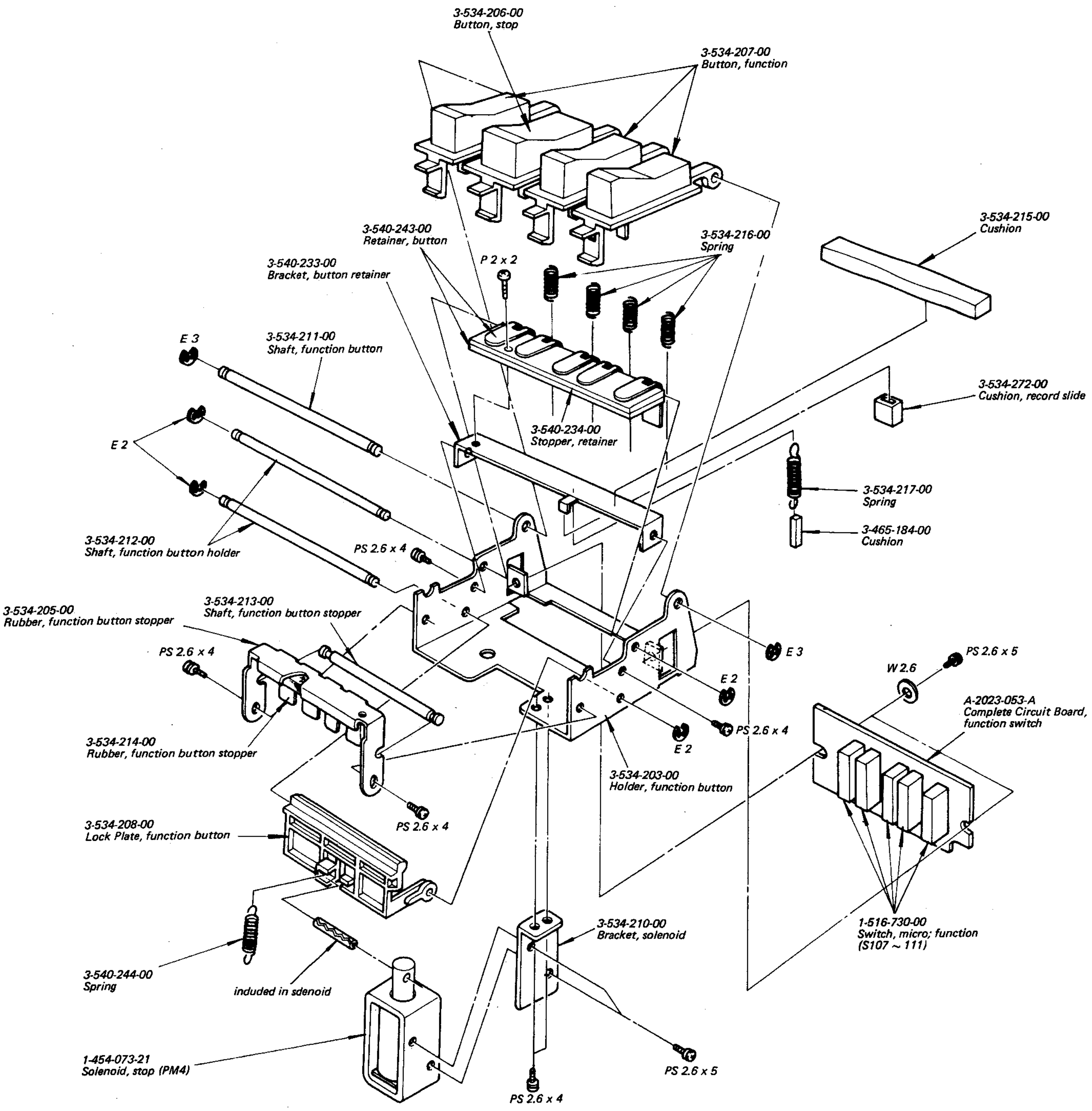
20. EXPLODED VIEW (8)


3-534-220-00
Knob
REEL SIZE
TAPE SPEED
3-534-219-00
Knob, PAUSE
0-051-221-00
Pad, knob
X-3534-102-0
Lever Ass'y, knob
3-534-226-00
Holder, pause circuit board
PS 2.6 x 5
X-3534-102-0
Lever Ass'y, knob
3-534-350-00
Cushion
E 4
3-534-221-00
Shaft, pause lever
PS 2.6 x 5
X-3539-404-0
Lever Ass'y, speed select
3-534-304-00
Roller, 5
3-534-218-00
Bracket, pause
3-534-320-00
Cushion, pause lever
3-534-224-00
Retainer, pause lock
1-518-134-00
Lamp, 2 V 100 mA (PL3)
E 4
3-534-225-00
Reinforcement, pause lock retainer
3-534-223-00
Bushing, lamp
A-2023-007-A
Complete Circuit Board, pause switch
PS 2.6 x 5
3-497-161-00
Cushion
3-534-276-00
Holder, lamp
1-516-325-00
Switch, micro; function
(S112 ~ 115)

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

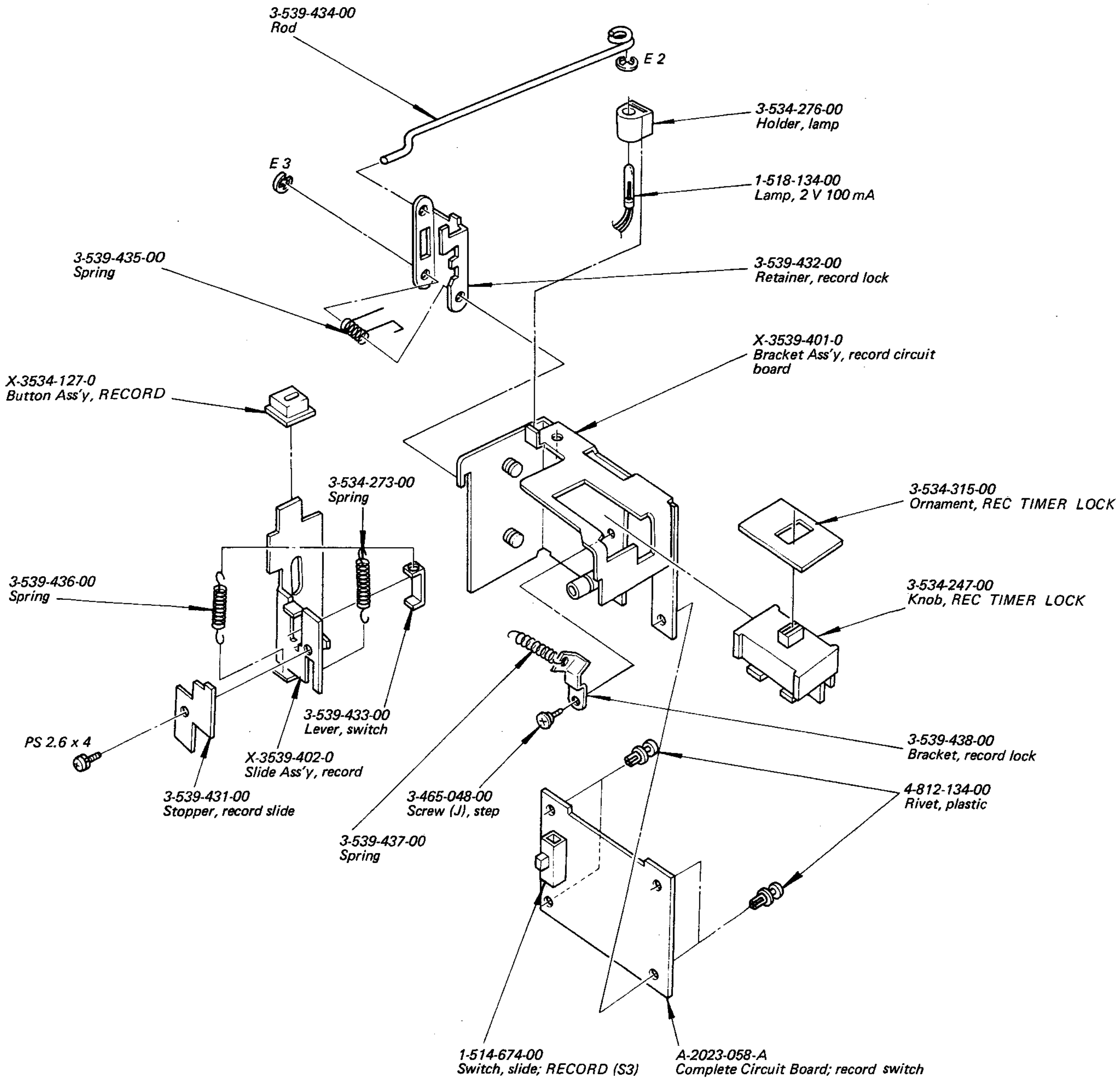
21. EXPLODED VIEW (9)


3-534-206-00
Button, stop
3-534-207-00
Button, function
3-534-215-00
Cushion
3-540-243-00
Retainer, button
3-540-233-00
Bracket, button retainer
P 2 x 2
3-534-216-00
Spring
E 3
3-534-211-00
Shaft, function button
3-534-272-00
Cushion, record slide
E 2
3-540-234-00
Stopper, retainer
3-534-217-00
Spring
3-465-184-00
Cushion
3-534-212-00
Shaft, function button holder
PS 2.6 x 4
3-534-205-00
Rubber, function button stopper
3-534-213-00
Shaft, function button stopper
E 3
PS 2.6 x 5
PS 2.6 x 4
W 2.6
E 2
A-2023-053-A
Complete Circuit Board, function switch
PS 2.6 x 4
E 2
3-534-214-00
Rubber, function button stopper
3-534-203-00
Holder, function button
3-534-208-00
Lock Plate, function button
PS 2.6 x 4
3-534-210-00
Bracket, solenoid
1-516-730-00
Switch, micro; function
(S107 ~ 111)
3-540-244-00
Spring
included in solenoid
1-454-073-21
Solenoid, stop (PM4)
PS 2.6 x 5
PS 2.6 x 4

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

22. EXPLODED VIEW (10)


3-539-434-00
Rod
E 2
3-534-276-00
Holder, lamp
E 3
1-518-134-00
Lamp, 2 V 100 mA
3-539-435-00
Spring
3-539-432-00
Retainer, record lock
X-3539-401-0
Bracket Ass'y, record circuit board
X-3534-127-0
Button Ass'y, RECORD
3-534-273-00
Spring
3-534-315-00
Ornament, REC TIMER LOCK
3-539-436-00
Spring
3-534-247-00
Knob, REC TIMER LOCK
3-539-433-00
Lever, switch
3-539-438-00
Bracket, record lock
PS 2.6 x 4
X-3539-402-0
Slide Ass'y, record
4-812-134-00
Rivet, plastic
3-539-431-00
Stopper, record slide
3-465-048-00
Screw (J), step
3-539-437-00
Spring
1-514-674-00
Switch, slide; RECORD (S3)
A-2023-058-A
Complete Circuit Board; record switch

Note:

- ○ Items without part number and description are not available.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (−) = slotted head

23. ELECTRICAL PARTS LIST

COMPLETE CIRCUIT BOARDS

Ref. No.	*Part No.*	*Description*
	A-2006-021-A	Record Amp (Front)
	A-2006-022-A	Record Amp (Back)
	A-2008-019-A	Playback EQ
	A-2014-022-A	Bias Osc
	A-2019-026-A	System Control
	A-2020-002-A	Servo Amp
	A-2023-005-A	Playback Level Control
	A-2023-007-A	Pause Switch
	A-2023-053-A	Function Switch
	A-2023-054-A	Tape Select Switch
	A-2023-055-A	Headphone Switch
	A-2023-056-A	Monitor Switch
	A-2023-057-A	PAN POT Switch
	A-2023-058-A	Record Switch
	A-2027-006-A	Level Meter CAL.
	A-2095-016-A	Tension Regulator
	A-2095-019-A	Tension Arm (L)
	A-2095-020-A	Tension Arm (R)
	A-2095-071-A	Torque
	A-2095-073-A	Line Amp
	A-2095-074-A	PAN POT
	A-2095-075-A	Sync

PRINTED CIRCUIT BOARD

Ref. No.	*Part No.*	*Description*
	1-582-864-00	Terminal

SEMICONDUCTORS

Record Amp (Front) Section

Ref. No.	*Part No.*	*Description*
Q101, 301		Transistor 2SC632A
Q102~111 Q302~311		Transistor 2SC634A
D101, 301		Diode 1S2076
IC101, 301		IC TA7122AP

Record Amp (Back) Section

Ref. No.	*Part No.*	*Description*
Q501, 701		Transistor 2SC632A
Q502~511 Q702~711		Transistor 2SC634A
D501, 701		Diode 1S2076
IC501, 701		IC TA7122AP

Playback EQ Section

Ref. No.	*Part No.*	*Description*
Q112, 312 Q512, 712		Transistor 2SK43
Q113, 313 Q513, 713		Transistor 2SC632A
Q114, 314 Q514, 714		Transistor 2SC634A

Line Amp Section

Ref. No.	*Part No.*	*Description*
Q115, 315, 515, 715 Q116, 316, 516, 716 Q117, 317, 517, 717		Transistor 2SC634A
D102, 302, 502, 702 D103, 303, 503, 703		Diode 1T22
IC103, 303 IC503, 703		IC TA7122AP

Bias Osc Section

Ref. No.	*Part No.*	*Description*
Q501, 502		Transistor 2SC1475

Playback Level Control Section

Ref. No.	*Part No.*	*Description*
Q118, 318 Q119, 319 Q518, 718 Q519, 719		Transistor 2SC634A
D104, 304 D504, 704 D105, 305 D505, 705		Diode 1T40

Tension Regulator Section

Ref. No.	*Part No.*	*Description*
Q701~713		Transistor 2SC634A
Q714		Transistor 2SC1384
D701, 702		Diode 1T40
D703		Diode MZ08
D704		Diode MZ12
D705, 706		Diode 1T22
D707~710		Diode 10D-2

System Control Section

Ref. No.	*Part No.*	*Description*
Q801~811		Transistor 2SC634A
Q812		Transistor 2SC1124
D801, 802		Diode 10D-2
D803		Diode MZ08
D804, 805		Diode 1T40
D806, 807		Diode 10D-2
D808		Diode 1T40
D809, 810		Diode 1T22
D811~817		Diode 10D-2

Chassis Section

Ref. No.	*Part No.*	*Description*	
Q901, 902		Transistor	2SD291
Q903, 904		Transistor	2SC867
D902, 903		Diode	10D-2

Torque Section

Ref. No.	*Part No.*	*Description*	
Q1001, 1002		Transistor	2SC634A
D1001, 1002		Diode	10D-2
D1003~1006		Diode	1T40

Sync Section

Ref. No.	*Part No.*	*Description*	
D501		Diode	1T40
D502		Diode	10E-2
D503		Diode	1T40
IC102, 302 IC502, 702		IC	TA7122AP

Tape Select Switch Section

Ref. No.	*Part No.*	*Description*	
D503, 504		Diode	1T40

Servo Amp Section

Ref. No.	*Part No.*	*Description*	
D601~605		Diode	10D-2
IC601		IC	CX032B

Function Switch Section

Ref. No.	*Part No.*	*Description*	
D901		Diode	10D-2

Pause Switch Section

Ref. No.	*Part No.*	*Description*	
D904		Diode	10D-2
Th701	1-800-204-00	Thermistor	S-10 k

COILS

Ref. No.	*Part No.*	*Description*	
L101, 301 L501, 701	1-407-519-00	8 μH	microinductor
L102, 302 L502, 702	1-407-269-00	2.2 mH	variable inductor
L103, 303 L503, 703	1-407-270-00	3.3 mH	variable inductor
L104, 304 L504, 704	1-407-290-00	10 mH	variable inductor
L105, 305 L505, 705	1-407-173-00	220 μH	microinductor
L201, 401 L601, 801	1-407-504-00	10 mH	microinductor
L202, 402 L602, 802	1-407-561-00	33 mH	microinductor
L901	1-407-270-00	3.3 mH	microinductor
L902, 903	1-407-269-00	2.2 mH	microinductor
L904	1-407-270-00	3.3 mH	microinductor
L905, 906	1-407-198-00	2.2 mH	microinductor

TRANSFORMERS

Ref. No.	*Part No.*	*Description*
T1	1-442-360-00	Power
T2	1-442-361-00	Power
T201, 401 T601, 801	1-427-270-00	Output
T901	1-433-171-00	Bias Osc

CAPACITORS

All capacitors are in μF unless otherwise indicated.
(p = $\mu\mu$, elect = electrolytic)

Record Amp (Front) & Record Amp (Back) Section

Ref. No.	*Part No.*	*Description*		
C101, 301 C501, 701	1-121-398-11	10	25 V	elect
C102, 302 C502, 702	1-131-206-11	3.3	25 V	elect
C103, 303 C503, 703	1-107-133-11	120 p	50 V	silvered mica
C104, 304 C504, 704	1-105-661-12	0.001	50 V	mylar
C105, 305 C505, 705	1-121-651-11	10	16 V	elect
C106, 306 C506, 706	1-121-398-11	10	25 V	elect
C107, 307 C507, 707	1-107-131-11	100 p	50 V	silvered mica
C108, 308 C508, 708	1-121-391-11	1	50 V	elect
C109, 309 C509, 709	1-121-422-11	220	25 V	elect
C110, 310 C510, 710	1-121-748-11	10	25 V	elect
C111, 311 C511, 711	1-105-661-12	0.001	50 V	mylar
C112, 312 C512, 712	1-121-414-11	100	10 V	elect
C113, 313 C513, 713	1-107-119-11	33 p	50 V	silvered mica
C114, 314 C514, 714	1-107-125-11	56 p	50 V	silvered mica
C115, 315 C515, 715	1-121-420-11	220	10 V	elect
C116, 316 C516, 716	1-121-050-11	2.2	50 V	elect
C117, 317 C517, 717	1-105-669-12	0.0047	50 V	mylar
C118, 318 C518, 718	1-121-651-11	10	16 V	elect
C119, 319 C519, 719	1-105-661-12	0.001	50 V	mylar
C120, 320 C520, 720	1-107-111-11	15 p	50 V	silvered mica
C121, 321 C521, 721	1-107-133-11	120 p	50 V	silvered mica

Ref. No.	*Part No.*	*Description*		
C122, 322 C522, 722	1-121-409-11	47	16 V	elect
C123, 323 C523, 723	1-121-391-11	1	50 V	elect
C124, 324 C524, 724	1-121-398-11	10	25 V	elect
C125, 325 C525, 725	1-121-414-11	100	10 V	elect
C126, 326 C526, 726	1-105-664-12	0.0018	50 V	mylar
C127, 327 C527, 727	--------------			
C128, 328 C528, 728	1-107-004-11	100 p	500 V	silvered mica
C129, 329 C529, 729	1-105-516-12	0.018	50 V	mylar
C130, 330 C530, 730	1-105-512-12	0.0082	50 V	mylar
C131, 331 C531, 731	1-105-518-12	0.027	50 V	mylar
C132, 332 C532, 732	1-105-514-12	0.012	50 V	mylar
C133, 333 C533, 733	1-101-445-11	0.001	50 V	ceramic

Playback EQ Section

C161, 361 C561, 761	1-121-404-11	33	25 V	elect
C162, 362 C562, 762	1-107-115-11	22 p	50 V	silvered mica
C163, 363 C563, 763	1-123-055-11	47	16 V	elect
C164, 364 C564, 764	1-107-109-11	12 p	50 V	silvered mica
C165, 365 C565, 765	1-102-115-11	560 p	50 V	ceramic
C166, 366 C566, 766	1-121-414-11	100	10 V	elect
C167, 367 C567, 767	1-107-123-11	47 p	50 V	silvered mica
C168, 368 C568, 768	1-105-517-12	0.022	50 V	mylar
C169, 369 C569, 769	1-121-409-11	47	16 V	elect
C170, 370 C570, 770	1-121-748-11	10	25 V	elect
C171	1-105-661-12	0.001	50 V	mylar

Sync Section

C181, 381 C581, 781	1-121-398-11	10	25 V	elect
C182, 382 C582, 782	1-131-236-11	1	25 V	solid tantalum
C183, 383 C583, 783	1-105-687-12	0.15	50 V	mylar
C184, 384 C584, 784	1-107-133-11	120 p	50 V	silvered mica
C185, 385 C585, 785	1-105-663-11	0.0015	50 V	mylar
C186, 386 C586, 786	1-107-242-11	390 p	50 V	silvered mica
C187, 387 C587, 787	1-121-748-11	10	25 V	elect
C188, 388 C588, 788	1-105-665-12	0.0022	50 V	mylar
C901	1-121-388-11	1000	35 V	elect
C902	1-121-651-11	10	16 V	elect
C903	1-121-652-11	33	35 V	elect

Playback Level Control Section

C191	1-121-651-11	10	16 V	elect

Line Amp Section

C201, 401 C601, 801	1-107-131-11	100 p	50 V	silvered mica
C202, 402 C602, 802	1-107-117-11	27 p	50 V	silvered mica
C203, 403 C603, 803	1-107-139-11	220	50 V	silvered mica
C204, 404 C604, 804	1-121-392-11	3.3	25 V	elect
C205, 405 C605, 805	1-121-402-11	33	10 V	elect
C206, 406 C606, 806	1-105-661-12	0.001	50 V	mylar
C207, 407 C607, 807	1-105-131-12	100 p	50 V	mylar
C208, 408 C608, 808	1-121-398-11	10	25 V	elect
C209, 409 C609, 809	1-121-357-11	100	35 V	elect
C210, 410 C610, 810	1-121-395-11	4.7	25 V	elect
C211, 411 C611, 811	1-121-398-11	10	25 V	elect
C212, 412 C612, 812	1-121-392-11	3.3	25 V	elect
C213, 413 C214, 414 C613, 813 C614, 814	1-121-398-11	10	25 V	elect

Servo Amp Section

C601	1-121-935-11	100	25 V	elect
C602, 603	1-121-398-11	10	25 V	elect
C604	1-105-661-12	0.001	50 V	mylar
C605	1-105-673-12	0.01	50 V	mylar
C606	1-106-677-12	0.022	50 V	mylar
C607	1-108-550-11	0.082	50 V	mylar

Ref. No.	*Part No.*	*Description*		
C608	1-121-409-11	47	16 V	elect
C609, 610	1-131-197-11	3.3	16 V	solid tantalum
C611	1-121-900-11	4.7	250 V	elect

Tension Regulator Section

C701	1-105-665-12	0.0022	50 V	mylar
C702	1-102-112-11	330 p	50 V	ceramic
C703	1-105-529-12	0.22	50 V	mylar
C704	1-131-215-11	1	35 V	solid tantalum
C705	1-131-238-11	10	25 V	solid tantalum
C706	1-131-217-11	2.2	35 V	solid tantalum
C707	1-131-219-11	4.7	35 V	solid tantalum
C708	1-105-725-12	0.1	100 V	mylar

System Control Section

C801	1-121-983-11	470	50 V	elect
C802	1-121-411-11	47	50 V	elect
C803	1-121-810-11	470	50 V	elect
C804	1-121-357-11	100	35 V	elect
C805	1-121-388-11	1000	35 V	elect
C806	1-121-980-11	100	6.3 V	elect
C807	1-121-388-11	1000	35 V	elect
C808	1-121-954-11	4.7	50 V	elect
C809	1-121-651-11	10	16 V	elect
C810	1-121-980-11	100	6.3 V	elect
C811	1-121-983-11	470	50 V	elect
C812	1-121-662-11	22	35 V	elect
C813, 814	1-113-072-11	1	220 V	metalized paper
C815	1-121-726-11	0.47	50 V	elect
C816	1-105-919-12	0.033	200 V	mylar
C817	1-105-821-12	0.001	50 V	mylar
C818	1-107-179-11	270 p	500 V	silvered mica

Bias Osc Section

C904～907	1-141-034-00	20 p～120p		trimmer
C908, 909	1-129-710-11	0.0047	630 V	polypropylene
C910	1-129-706-11	0.0022	630 V	polypropylene
C911	1-105-672-12	0.0082	50 V	mylar
C912, 913	1-105-661-12	0.001	50 V	mylar
C914	1-105-666-12	0.0027	50 V	mylar
C915	1-121-653-11	47	35 V	elect

Record Switch Section

C916	1-105-919-12	0.033	200 V	mylar

Pause Switch Section

C901	1-121-391-11	1	50 V	elect

Torque Section

C1001, 1002	1-131-239-11	6.8	35 V	solid tantalum
C1003, 1004	1-105-919-12	0.033	200 V	mylar

Chassis Section

C902	1-121-004-00	220	160 V	elect
C903, 904	1-117-100-11	10	150 V	metalized paper
C905	1-117-036-22	1.5 + 0.5	250 V	metalized paper

Ref. No. *Part No.* *Description*

RESISTORS

All resistors are in Ω. ¼ W, ± 5 % carbon resistors (except particular type) are omitted.
Check schematic diagram for the resistance values.
k = 1000, M = 1000 k

Record Amp (Front) & Record Amp (Back) Section

Ref. No.	*Part No.*	*Description*	
R101, 301 R501, 701	1-242-721-09	100 k	low noise
R102, 302 R502, 702	1-242-690-09	5.1 k	low noise
R104, 304 R504, 704	1-242-721-09	100 k	low noise
R105, 305 R505, 705	1-242-715-09	56 k	low noise
R106, 306 R506, 706	1-242-713-09	47 k	low noise
R109, 309 R509, 709	1-242-703-09	18 k	low noise
R110, 310 R510, 710	1-224-447-00	20 k (A)	variable; MIC
R111, 311 R511, 711	1-242-707-09	27 k	low noise
R112, 312 R512, 712	1-224-447-00	20 k (A)	variable; LINE
R113, 313 R513, 713	1-242-709-09	33 k	low noise
R114, 314 R514, 714	1-242-731-09	270 k	low noise
R115, 315 R515, 715	1-242-703-09	18 k	low noise
R116, 316 R516, 716	1-242-713-09	47 k	low noise
R117, 317 R517, 717	1-242-729-09	220 k	low noise
R119, 319 R519, 719	1-242-707-09	27 k	low noise
R121, 321 R521, 721	1-242-709-09	33 k	low noise
R126, 326 R526, 726	1-222-775-00	22 k	adjustable
R129, 329 R529, 729	1-222-775-00	22 k	adjustable
R134, 334 R534, 734	1-242-729-09	220 k	low noise
R135, 335 R535, 735	1-242-719-09	82 k	low noise
R142, 342 R542, 742	1-242-713-09	47 k	low noise

Playback EQ Section

R162, 362 R562, 762	1-242-697-09	10 k	low noise
R163. 363 R563, 763	1-242-739-09	560 k	low noise

Ref. No.	*Part No.*	*Description*		
R164, 364 R564, 764	1-242-701-09	15 k		low noise
R165, 365 R565, 765	1-242-690-09	5.1 k		low noise
R168, 368 R568, 768	1-242-705-09	22 k		low noise
R169, 369 R569, 769	1-242-690-09	5.1 k		low noise
R170, 370 R570, 770	1-242-696-09	9.1 k		low noise
R171, 371 R571, 771	1-242-722-09	110 k		low noise
R175, 375 R575, 775	1-221-311-00	5 k		adjustable
R176, 376 R576, 776	1-221-630-00	20 k		adjustable

Sync Section

R182, 382 R582, 782	1-242-721-09	100 k		low noise
R183, 383 R583, 783	1-242-727-09	180 k		low noise
R184, 384 R584, 784	1-242-713-09	47 k		low noise
R187, 387 R587, 787	1-242-703-09	18 k		low noise
R188, 388 R588, 788	1-221-630-00	20 k		adjustable

Playback Level Control Section

R196, 396 R596, 796	1-224-338-00	20 k (B)		variable; PB LEVEL

Line Amp Section

R202, 402 R602, 802	1-242-721-09	100 k		low noise
R204, 404 R604, 804	1-242-729-09	220 k		low noise
R215, 415 R615, 815	1-242-729-09	220 k		low noise

Level Meter CAL. Section

R210, 410 R610, 710	1-222-762-00	2.2 k		adjustable

Servo Amp Section

R602	1-244-867-11	560	½ W	
R611	1-244-801-11	1	½ W	
R612	1-206-717-11	470	3 W	metal ozide
R616	1-222-774-00	10 k		adjustable
R618	1-222-775-00	22 k		adjustable

Tension Regulator Section

R717	1-222-773-00	4.7 k		adjustable
R731	1-222-775-00	22 k		adjustable
R733	1-244-867-11	560	½ W	
R734	1-244-801-11	1	½ W	
R736, 737	1-222-778-00	220 k		adjustable

Ref. No.	*Part No.*	*Description*		

System Control Section

R801	1-207-992-11	180	7 W	wirewound
R807	1-222-774-00	10 k		adjustable
R810	1-206-470-11	20	2 W	metal oxide
R814	1-206-477-11	39	½ W	metal oxide
R829	1-244-877-11	1.5 k	½ W	

Chassis Section

R901	1-205-523-00	820	35 W	wirewound
R902	1-227-135-00	100	35 W	wirewound

PAN POT Section

R901, 907	1-224-382-00	5 k (B)		variable; PAN POT
R903 ~ 906	1-242-691-09	5.6 k		low noise
R902, 908	1-224-382-00	5 k (B)		variable; PAN POT
R913 ~ 916	1-242-719-09	82 k		low noise

Tape Select Switch Section

R923	1-244-839-11	39	½ W	

Bias Osc Section

R928	1-244-837-11	33	½ W	

Torque Section

R1001, 1002	1-206-485-11	82	2 W	metal oxide
R1004	1-217-343-11	68	7 W	wirewound

SWITCHES

S1	1-516-024-00	Slide, PAN POT
S2	1-516-621-00	Slide, EQ (TAPE SELECT)
S3	1-514-674-00	Slide, RECORD
S4	1-516-621-00	Slide, BIAS (TAPE SELECT)
S102, 202 S302, 402	1-516-621-00	Slide, MONITOR
S103, 203 S303, 403	1-516-620-00	Slide, record mode
S104, 204 S304, 404	1-516-620-00	Slide, HEADPHONE
S107, 108	1-516-730-00	Micro, rewind
S109	1-516-730-00	Micro, stop
S110	1-516-730-00	Micro, playback
S111	1-516-730-00	Micro, fast-forward
S112, 114	1-516-325-00	Micro, REEL SIZE
S113, 115	1-516-325-00	Micro, PAUSE
S116, 117	1-516-309-00	Micro, tension arm (R)
S118, 119	1-516-309-00	Micro, tension arm (L)
S120	1-516-309-00	Micro, PM1 drive
S121	1-516-309-00	Micro, PM3 drive
S122	1-516-181-00	Push, POWER
S501	1-514-673-00	Slide, TAPE SPEED

JACKS

J1~4	1-507-376-00	Phone, MIC
J5, 6	1-507-414-00	Binaural, HEADPHONE
CNJ1~8	1-507-163-21	4 p phono, LINE IN/LINE OUT

MISCELLANEOUS

CNP901	1-509-062-31	Connector, AC INLET
CNP902	1-526-528-51	Connector, AC OUTLET
CP801~803 CP805~806	1-231-057-00	Encapsulated Component, C-R; 0.033 μF + 120 Ω, 500 V
CP901~906	1-101-534-00	Encapsulated Component, C-R; 0.1 μF + 120 Ω, 500 V

Ref. No.	*Part No.*	*Description*
F	1-532-219-00	Fuse, 1.5 A
M1	8-832-638-01	Motor, supply reel; IC-638R
M2	8-832-638-01	Motor, take-up reel; IC-638R
M3	8-832-624-21	Motor, capstan; IC-624G
ME1～4	1-520-189-00	Meter, VU
PL3,5～10	1-518-134-00	Lamp, 2 V 100 mA
PM1	1-454-074-00	Solenoid, pinch roller (L)
PM2	1-454-074-00	Solenoid, pinch roller (R)
PM3	1-454-074-00	Solenoid, brake
PM4	1-454-073-21	Solenoid, stop
RY801, 802 RY1001, RY1002	1-515-127-00	Relay
	1-452-072-00	Ring, magnet
	1-533-048-00	Holder, fuse
	1-536-395-00	Terminal Strip, 1L1
	1-536-400-00	Terminal Strip, 3L2
EH101～401	8-825-617-00	Head, erase; EF137-2904
RH101, 301 RH501, 701	8-827-729-40	Head, record; RP138-2904
PH101, 301 PH501, 701	8-829-342-00	Head, playback; PP138-4204

20. ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
X-2539-413-0	Cushion Ass'y (USA Model)
X-3141-019-0	Adaptor Ass'y, 10″ reel; RAD-10
X-3534-138-0	Reel Ass'y, R-11B
X-3701-018-0	Cleaner Ass'y, head (Canada Model)
1-534-049-31	Cord, connection; RK-74
1-534-262-13	Cord, power (USA Model)
1-534-375-12	Cord, power (Canada Model)
3-401-193-00	Cleaning Ribbon (USA Model)
3-539-464-00	Carton [redacted]
3-701-020-00	Bag, polyethylene
3-701-046-00	Label, home entertainment (Canada Model)
3-701-184-00	Label, cord
3-701-355-00	Label, tack (USA Model)
3-701-356-00	Label, tack (Canada Model)
3-701-623-00	Bag, polyethylene
3-701-649-00	Bag, polyethylene
3-780-501-21	Manual, instruction (USA Model)
3-780-501-31	Manual, instruction (Canada Model)
3-793-010-20	Booklet, tape talk
3-793-044-00	Label, important (USA Model)
3-793-105-00	List, warranty station (Canada Model)
3-793-106-00	Card, guaranty (Canada Model)
3-793-711-11	Card, caution
8-918-222-11	Tape, demonstration

21. HARDWARE

Part No. *Description*

All screws are phillips type (cross recess type) unless otherwise indicated. (–) : slotted head.

Part No.	*Description*
7-621-712-51	(–) SC 2.6 x 6
7-621-853-47	K 3.6 x 16
7-628-253-95	PS 2.6 x 4
7-628-254-05	PS 2.6 x 5
7-682-124-01	P 2 x 4
7-682-126-01	P 2 x 6
7-682-128-01	P 2 x 10
7-682-147-01	P 3 x 6
7-682-164-01	P 4 x 14
7-682-169-01	P 4 x 35
7-682-170-04	RK 4 x 35
7-682-254-35	PS 2.6 x 10
7-682-546-03	B 3 x 5
7-682-565-01	B 4 x 16
7-682-626-01	PS 2 x 6
7-682-646-01	PS 3 x 5
7-682-647-01	PS 3 x 6
7-682-649-01	PS 3 x 10
7-682-661-01	PS 4 x 8
7-682-947-01	PSW 3 x 6
7-682-948-01	PSW 3 x 8
7-682-949-01	PSW 3 x 10
7-682-960-01	PSW 4 x 6
7-682-961-01	PSW 4 x 8
7-682-962-01	PSW 4 x 10
7-682-963-01	PSW 4 x 12
7-683-237-31	(–) SC 3 x 3
7-683-238-01	(–) SC 3 x 5
7-683-238-31	(–) SC 3 x 4
7-685-145-31	P 3 x 6, self-tapping
7-685-146-21	P 3 x 8, self-tapping
7-685-158-31	P 4 x 6, self-tapping
7-685-159-31	P 4 x 8, self-tapping

WASHERS

7-623-105-11	2 (middle)
7-623-107-18	2.6
7-623-108-18	3

RETAINING RINGS

7-624-102-01	E 1.5
7-624-104-01	E 2
7-624-106-01	E 3
7-624-108-01	E 4
7-624-109-01	E 5

MISCELLANEOUS

7-622-210-02	Nut 4
7-684-014-00	Nut 3
7-623-508-01	Lug, 3
7-671-115-01	Steel Ball, 5

4-CHANNEL
STEREO TAPECORDER

TC-788-4

France Model

Serial No. 10101 ~ 10300
and 10401 ~ 10550

SUPPLEMENT

No. 1
November, 1975

This supplement updates the service manual to include production change for these units bearing serial numbers 10101 ~ 10300 and 10401 ~ 10550.

1. SPECIFICATIONS Change

Power Requirements: 100, 110, 120, 127, 220, 240 V ac
50/60 Hz

SONY®
SERVICE MANUAL

MEMO

MEM

-4

Model

01 ~ 10300
01 ~ 10550

nber, 1975

NY
ANUAL

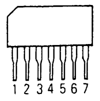
MEMO

MEMO

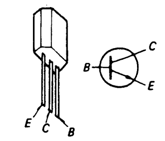
2. MOUNTING DIAGRAM (1) – Amplifier Section (1) –

– Conductor Side –

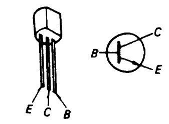
IC101, 301, 501, 701,
102, 302, 502, 702,
103, 303, 503, 703 : TA7122AP



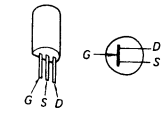
Q101, 301, 701,
501 (back record amp section),
113, 313, 513, 713 : 2SC632A
Q102 ~ 111,
302 ~ 311,
502 (back record amp section),
503 ~ 511,
702 ~ 711,
114, 314, 514, 714,
115, 315, 515, 715,
116, 316, 516, 716,
717,
118, 318, 518, 718,
119, 319, 519, 719 : 2SC634A



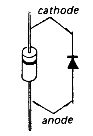
Q501 (bias osc section),
Q502 (bias osc section) : 2SC1475



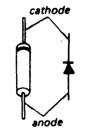
Q112, 312, 512, 712 : 2SK43



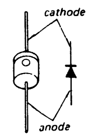
D101, 301, 501, 701 : IS2076

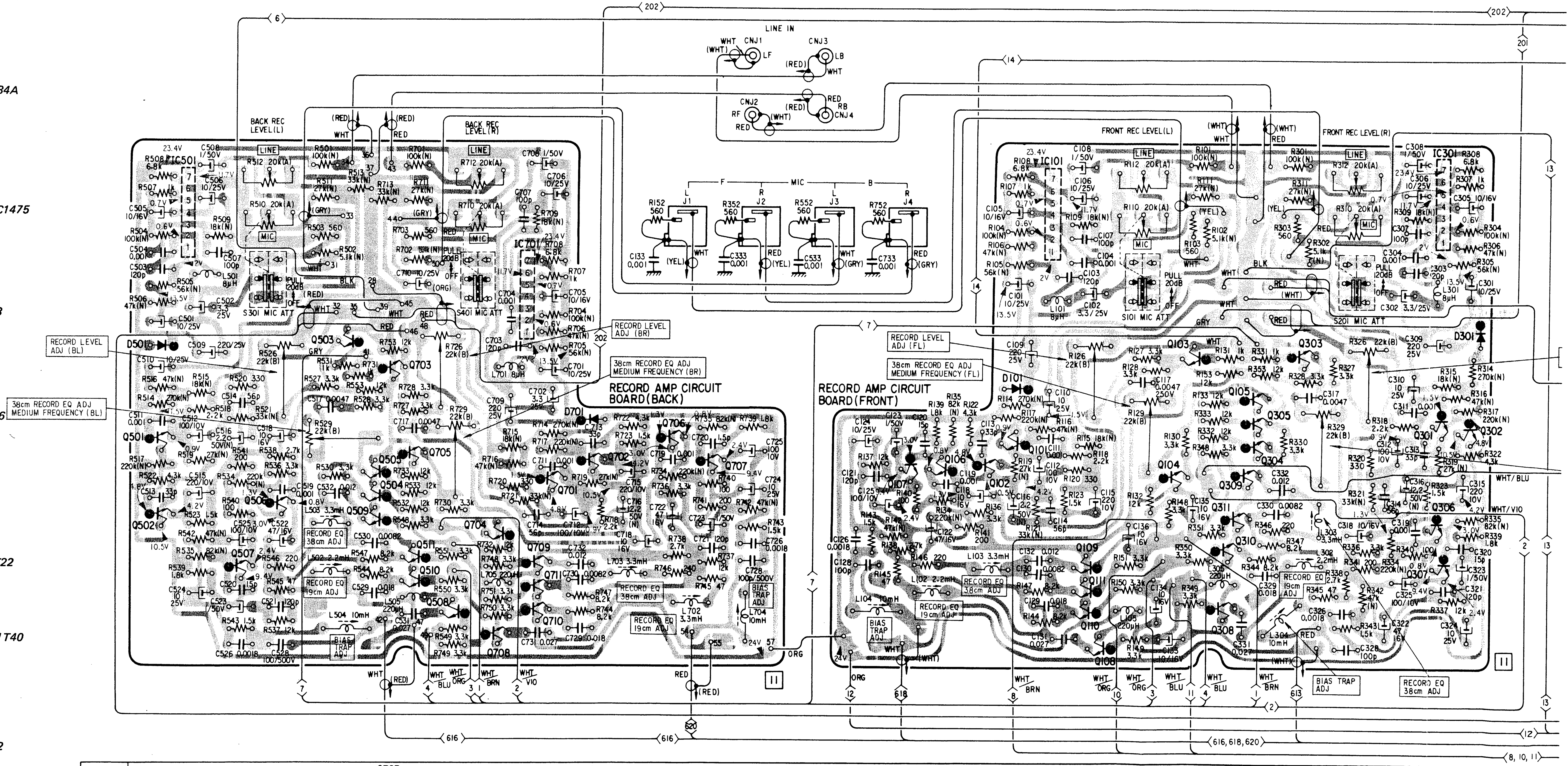

cathode
anode

D102, 302, 702,
502 (line amp section),
103, 303, 703,
503 (line amp section) : 1T22
D104, 304, 504, 704,
105, 305, 505, 705,
501 (SYNC section),
503 (SYNC section),
503 (tape select section),
504 (tape select section) : 1T40

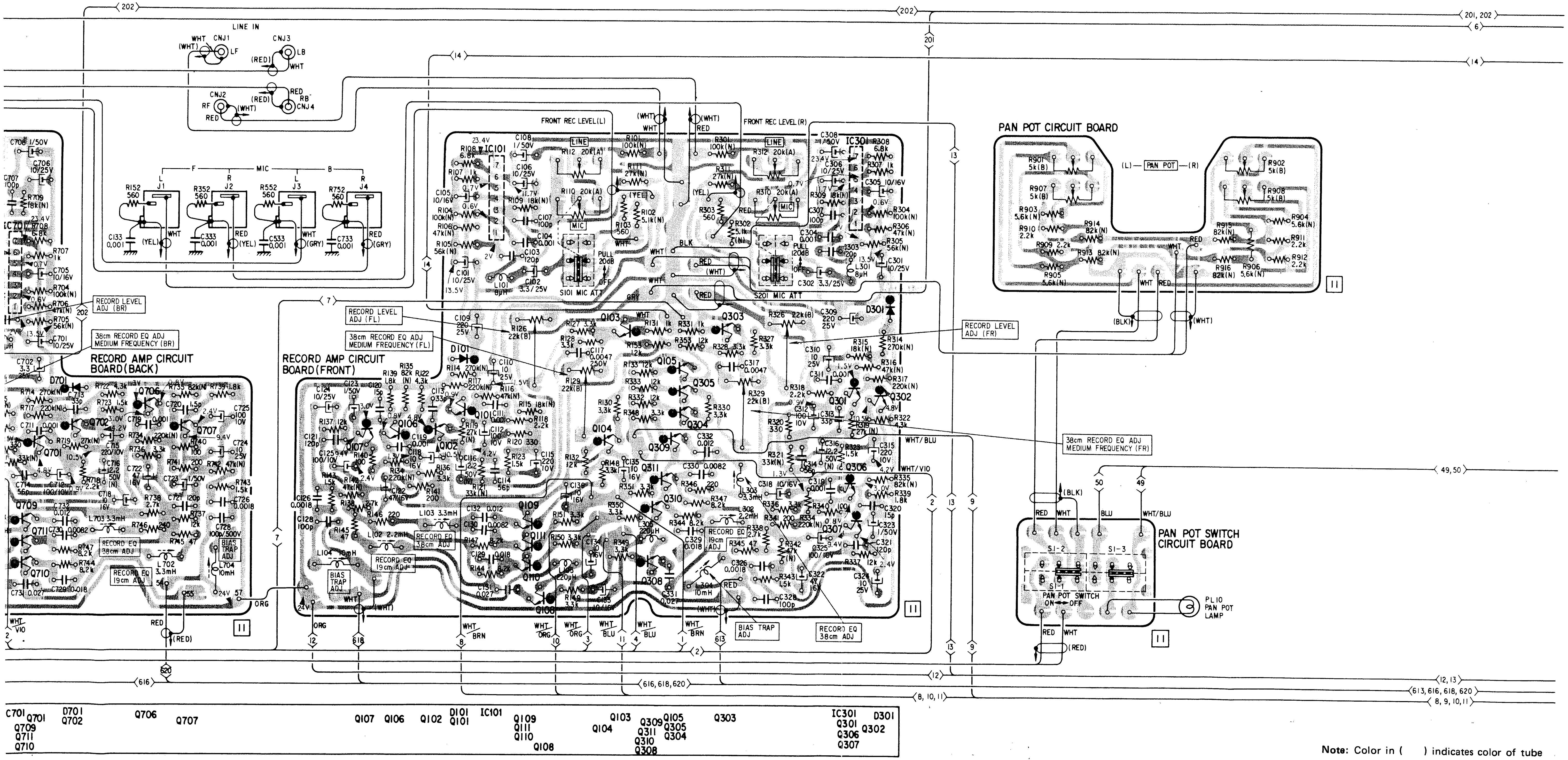

cathode
anode

D502 (SYNC section) : 10E-2


cathode
anode


LINE IN
CNJ1
CNJ3
CNJ2
CNJ4
LF
LB
RF
RB
BACK REC LEVEL(L)
BACK REC LEVEL(R)
FRONT REC LEVEL(L)
FRONT REC LEVEL(R)
MIC
J1
J2
J3
J4
IC501
IC701
IC101
IC301
S301 MIC ATT
S401 MIC ATT
S101 MIC ATT
S201 MIC ATT
PULL 20dB
RECORD LEVEL ADJ (BL)
RECORD LEVEL ADJ (BR)
RECORD LEVEL ADJ (FL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FL)
RECORD AMP CIRCUIT BOARD (BACK)
RECORD AMP CIRCUIT BOARD (FRONT)
RECORD EQ 38cm ADJ
RECORD EQ 19cm ADJ
BIAS TRAP ADJ
WHT
RED
BLK
GRY
YEL
ORG
BRN
BLU
VIO
WHT/BLU
WHT/VIO
202
201
6
7
14
13
616
620
616, 618, 620
8, 10, 11
12
2

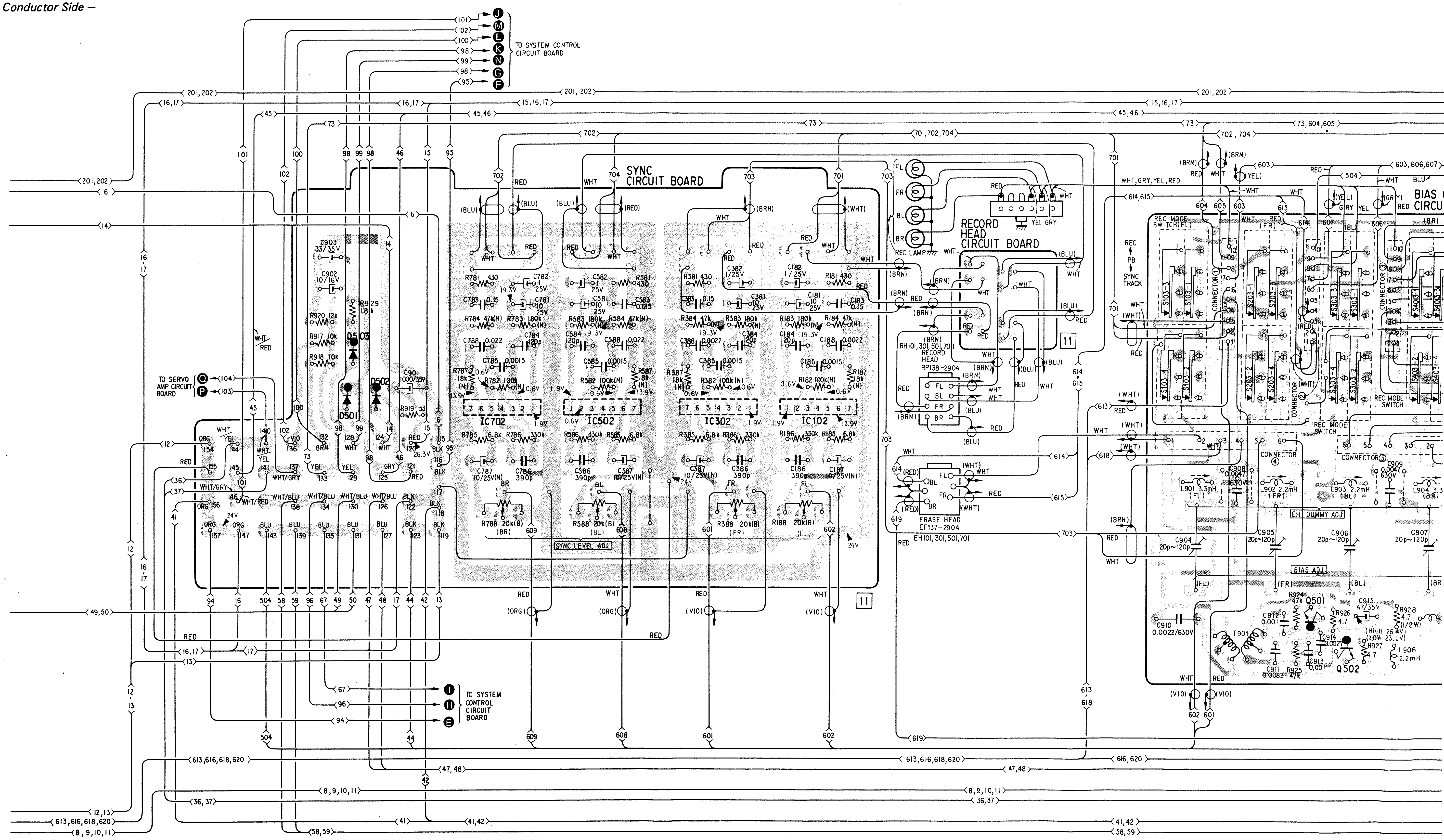
IC, Q, D	IC501 D501 Q501 Q502	Q507	Q506	Q503	Q703 Q505 Q504 Q509	Q705 Q511 Q510	Q508	Q704 Q708	IC701 Q709 Q711 Q710	Q701	D701 Q702	Q706	Q707	Q107	Q106	Q102	D101 Q101	IC101	Q109 Q111 Q110	Q108	Q104	Q103	Q309 Q311 Q310 Q308	Q105 Q305 Q304	Q303	IC301 Q301 Q306 Q307	Q302	D301	


LINE IN
CNJ1
CNJ2
CNJ3
CNJ4
MIC
J1
J2
J3
J4
FRONT REC LEVEL (L)
FRONT REC LEVEL (R)
S101 MIC ATT
S201 MIC ATT
RECORD LEVEL ADJ (BR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (BR)
RECORD AMP CIRCUIT BOARD (BACK)
RECORD AMP CIRCUIT BOARD (FRONT)
RECORD LEVEL ADJ (FL)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FL)
RECORD LEVEL ADJ (FR)
38cm RECORD EQ ADJ MEDIUM FREQUENCY (FR)
RECORD EQ 38cm ADJ
RECORD EQ 19cm ADJ
BIAS TRAP ADJ
PAN POT CIRCUIT BOARD
(L) — PAN POT — (R)
PAN POT SWITCH CIRCUIT BOARD
S1-1
S1-2
S1-3
PAN POT SWITCH ON ← → OFF
PL10 PAN POT LAMP
C701 Q701 Q709 Q711 Q710
D701 Q702
Q706
Q707
Q107
Q106
Q102
D101 Q101
IC101
Q109 Q111 Q110
Q108
Q103
Q104
Q309 Q311 Q310 Q308
Q105 Q305 Q304
Q303
IC301 Q301 Q306 Q307
D301 Q302

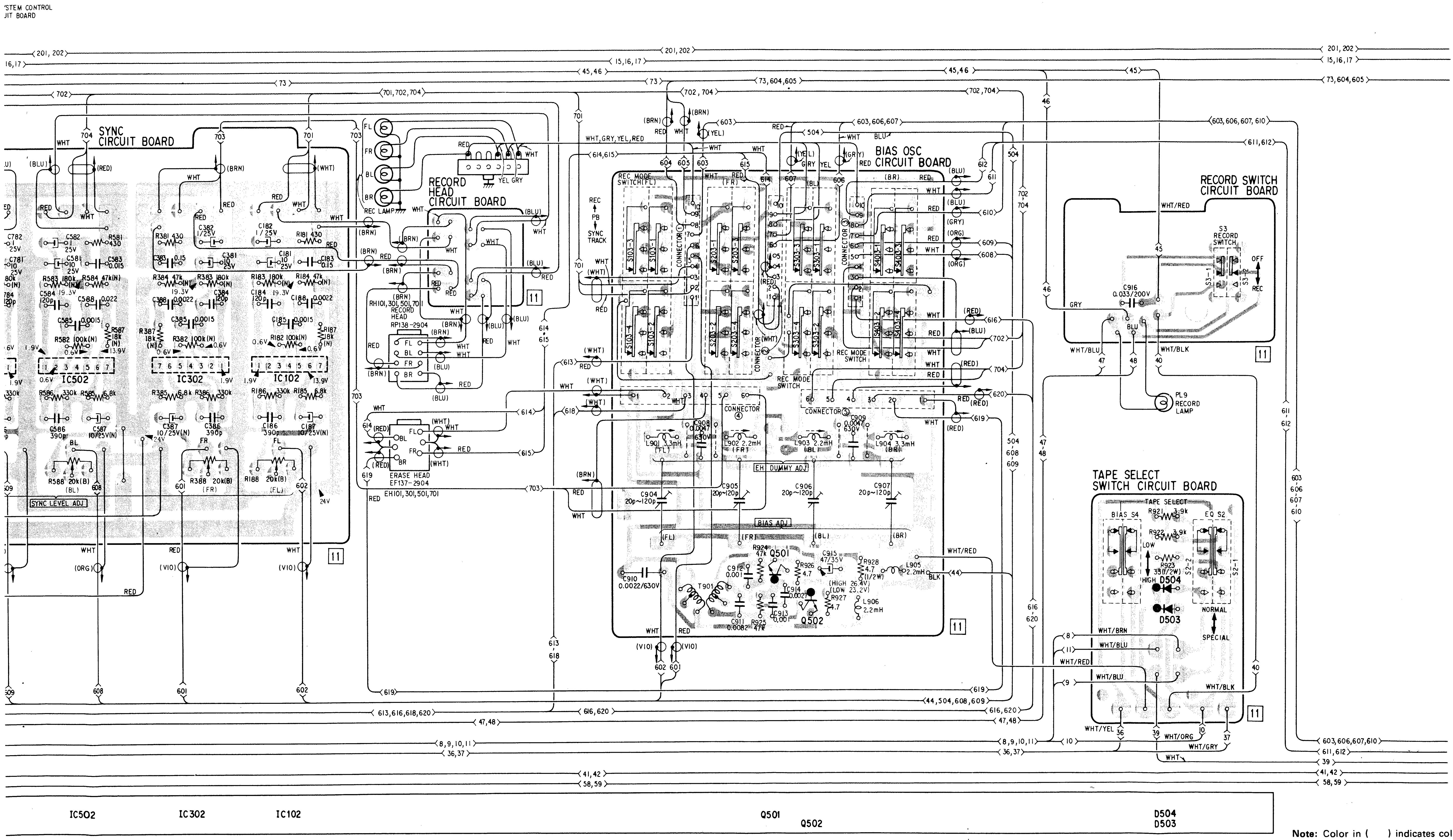
Note: Color in ( ) indicates color of tube which covers end of shielded wire.

3. MOUNTING DIAGRAM (2) – Amplifier Section (2) –

– Conductor Side –


TO SYSTEM CONTROL CIRCUIT BOARD
J
M
L
K
N
G
F
SYNC CIRCUIT BOARD
RECORD HEAD CIRCUIT BOARD
BIAS CIRCU
TO SERVO AMP CIRCUIT BOARD
O
P
IC702
IC502
IC302
IC102
D501
D502
D503
C903 33/35V
C902 10/16V
C901 1000/35V
R920 12k
R917 10k
R918 10k
R919 33
R929 1.8k
SYNC LEVEL ADJ
R788 20k(B) (BR)
R588 20k(B) (BL)
R388 20k(B) (FR)
R188 20k(B) (FL)
REC LAMP
RH101,301,501,701 RECORD HEAD RP138-2904
ERASE HEAD EF137-2904
EH101,301,501,701
REC MODE SWITCH(FL)
REC MODE SWITCH
REC
PB
SYNC TRACK
CONNECTOR ①
CONNECTOR ②
CONNECTOR ③
CONNECTOR ④
CONNECTOR ⑤
S103-1
S103-2
S103-3
S103-4
S203-1
S203-2
S203-3
S203-4
S303-1
S303-2
S303-3
S403-1
S403-2
EH DUMMY ADJ
BIAS ADJ
L901 3.3mH (FL)
L902 2.2mH (FR)
L903 2.2mH (BL)
L904 3.3 (BR)
L906 2.2mH
C904 20p~120p
C905 20p~120p
C906 20p~120p
C907 20p~120p
C908 0.0047 630V
C909 0.0047 630V
C910 0.0022/630V
C911 0.0082
C912 0.001
C913 0.001
C914 0.0027
C915 47/35V
R924 47k
R925 47k
R926 4.7
R927 4.7
R928 4.7 (1/2W)
(HIGH 26.4V)
(LOW 23.2V)
T901
Q501
Q502
TO SYSTEM CONTROL CIRCUIT BOARD
I
H
E
11

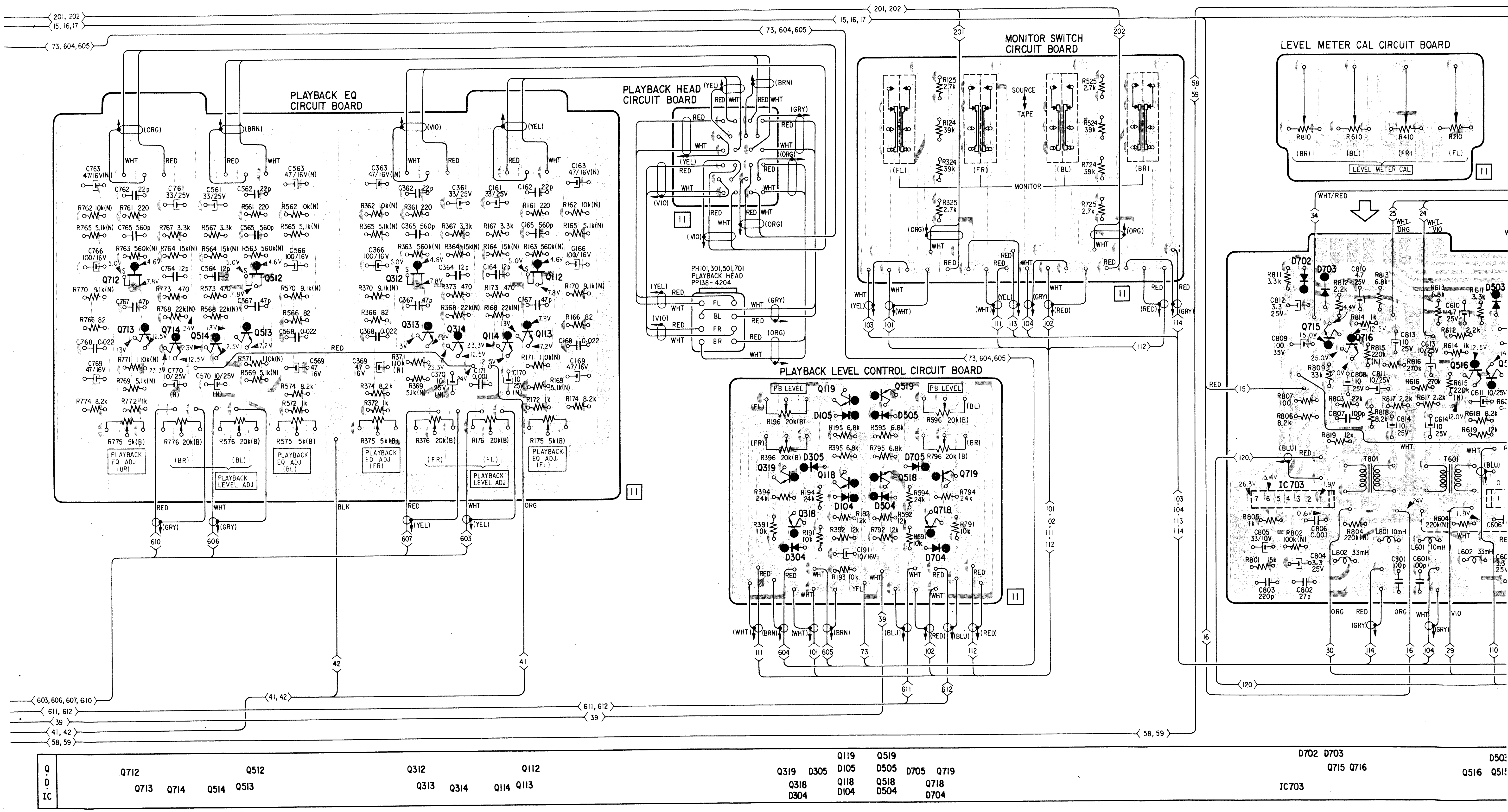
IC, Q, D	D503 D501 D502	IC702	IC502	IC302	IC102	Q501 Q502

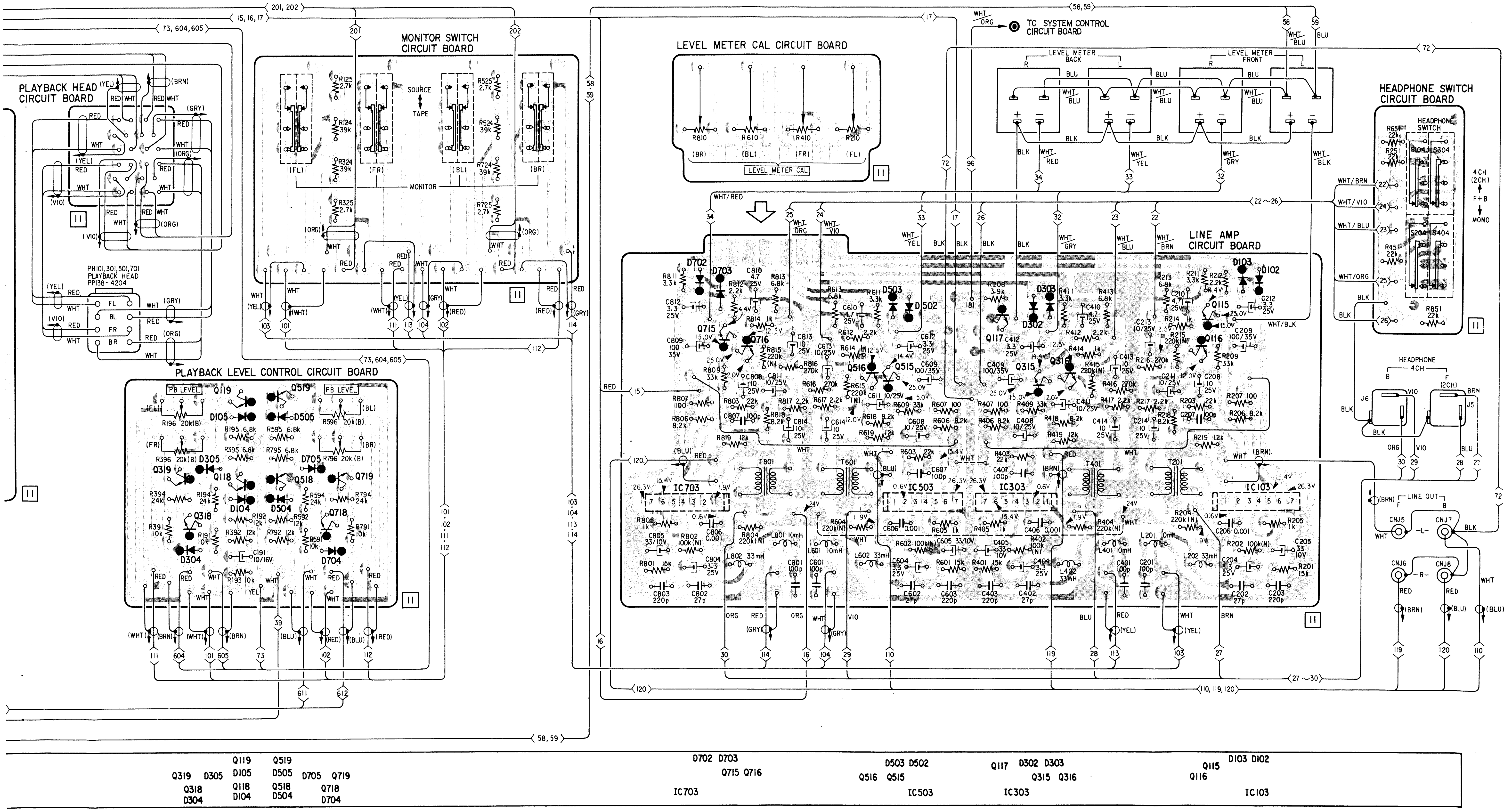

STEM CONTROL
JIT BOARD
SYNC CIRCUIT BOARD
RECORD HEAD CIRCUIT BOARD
BIAS OSC CIRCUIT BOARD
RECORD SWITCH CIRCUIT BOARD
TAPE SELECT SWITCH CIRCUIT BOARD
REC MODE SWITCH(FL)
REC MODE SWITCH
REC ↕ PB SYNC TRACK
RH101,301,501,701 RECORD HEAD RP138-2904
ERASE HEAD EF137-2904
EH101,301,501,701
SYNC LEVEL ADJ
EH DUMMY ADJ
BIAS ADJ
S3 RECORD SWITCH
OFF
REC
PL9 RECORD LAMP
TAPE SELECT
BIAS S4
EQ S2
LOW
HIGH
NORMAL
SPECIAL
IC502
IC302
IC102
Q501
Q502
D504
D503
T901
CONNECTOR ④
CONNECTOR ⑤
REC LAMP

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

4. MOUNTING DIAGRAM (3) – Amplifier Section (3) –

– Conductor Side –


PLAYBACK EQ CIRCUIT BOARD
PLAYBACK HEAD CIRCUIT BOARD
MONITOR SWITCH CIRCUIT BOARD
LEVEL METER CAL CIRCUIT BOARD
PLAYBACK LEVEL CONTROL CIRCUIT BOARD
PH101, 301, 501, 701 PLAYBACK HEAD PP138-4204
PLAYBACK EQ ADJ (BR)
PLAYBACK LEVEL ADJ
PLAYBACK EQ ADJ (BL)
PLAYBACK EQ ADJ (FR)
PLAYBACK LEVEL ADJ
PLAYBACK EQ ADJ (FL)
SOURCE
TAPE
MONITOR
LEVEL METER CAL
PB LEVEL
R775 5k(B)
R776 20k(B)
R576 20k(B)
R575 5k(B)
R375 5k(B)
R376 20k(B)
R176 20k(B)
R175 5k(B)
R196 20k(B)
R596 20k(B)
R396 20k(B)
R796 20k(B)
R810
R610
R410
R210
IC703
T801
T601
201, 202
15, 16, 17
73, 604, 605
603, 606, 607, 610
611, 612
39
41, 42
58, 59
120
Q·D·IC
Q712
Q713
Q714
Q514
Q513
Q512
Q312
Q313
Q314
Q114
Q113
Q112
Q319
Q318
D304
D305
Q119
D105
Q118
D104
Q519
D505
Q518
D504
D705
Q719
Q718
D704
D702
D703
Q715
Q716
IC703
Q516
Q515
D503


PLAYBACK HEAD CIRCUIT BOARD
PH101, 301, 501, 701 PLAYBACK HEAD PP138-4204
MONITOR SWITCH CIRCUIT BOARD
SOURCE
TAPE
MONITOR
LEVEL METER CAL CIRCUIT BOARD
LEVEL METER CAL
TO SYSTEM CONTROL CIRCUIT BOARD
LEVEL METER BACK
LEVEL METER FRONT
HEADPHONE SWITCH CIRCUIT BOARD
4CH (2CH)
F+B
MONO
PLAYBACK LEVEL CONTROL CIRCUIT BOARD
PB LEVEL
LINE AMP CIRCUIT BOARD
HEADPHONE 4CH
LINE OUT
Q319 D305
Q318 D304
Q119 D105 Q118 D104
Q519 D505 Q518 D504
D705 Q719 Q718 D704
D702 D703 Q715 Q716 IC703
D503 D502 Q516 Q515 IC503
Q117 D302 D303 Q315 Q316 IC303
D103 D102 Q115 Q116 IC103

Note: Color in ( ) indicates color of tube which covers end of shielded wire.

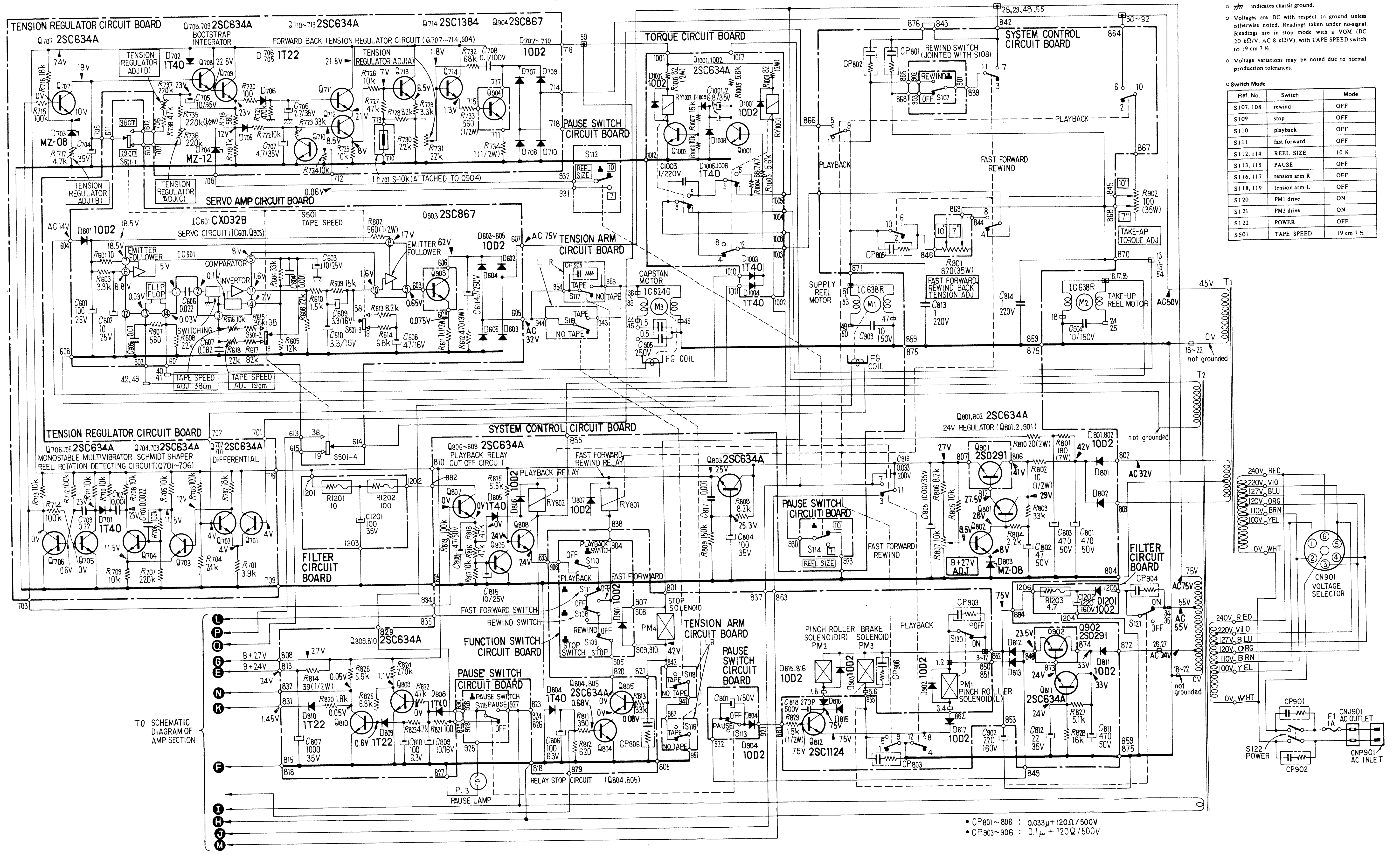
6. SCHEMATIC DIAGRAM (2) – System Control Section –

Note:

- o All capacitors are in μF unless otherwise noted. p = μμF
- o All resistors are in Ω, ¼W, unless otherwise noted. k = 1,000 M = 1,000 k
- o ⏚ indicates chassis ground.
- o Voltages are DC with respect to ground unless otherwise noted. Readings taken under no-signal. Readings are in stop mode with a VOM (DC 20 kΩ/V, AC 8 kΩ/V), with TAPE SPEED switch to 19 cm 7 ½.
- o Voltage variations may be noted due to normal production tolerances.

o **Switch Mode**

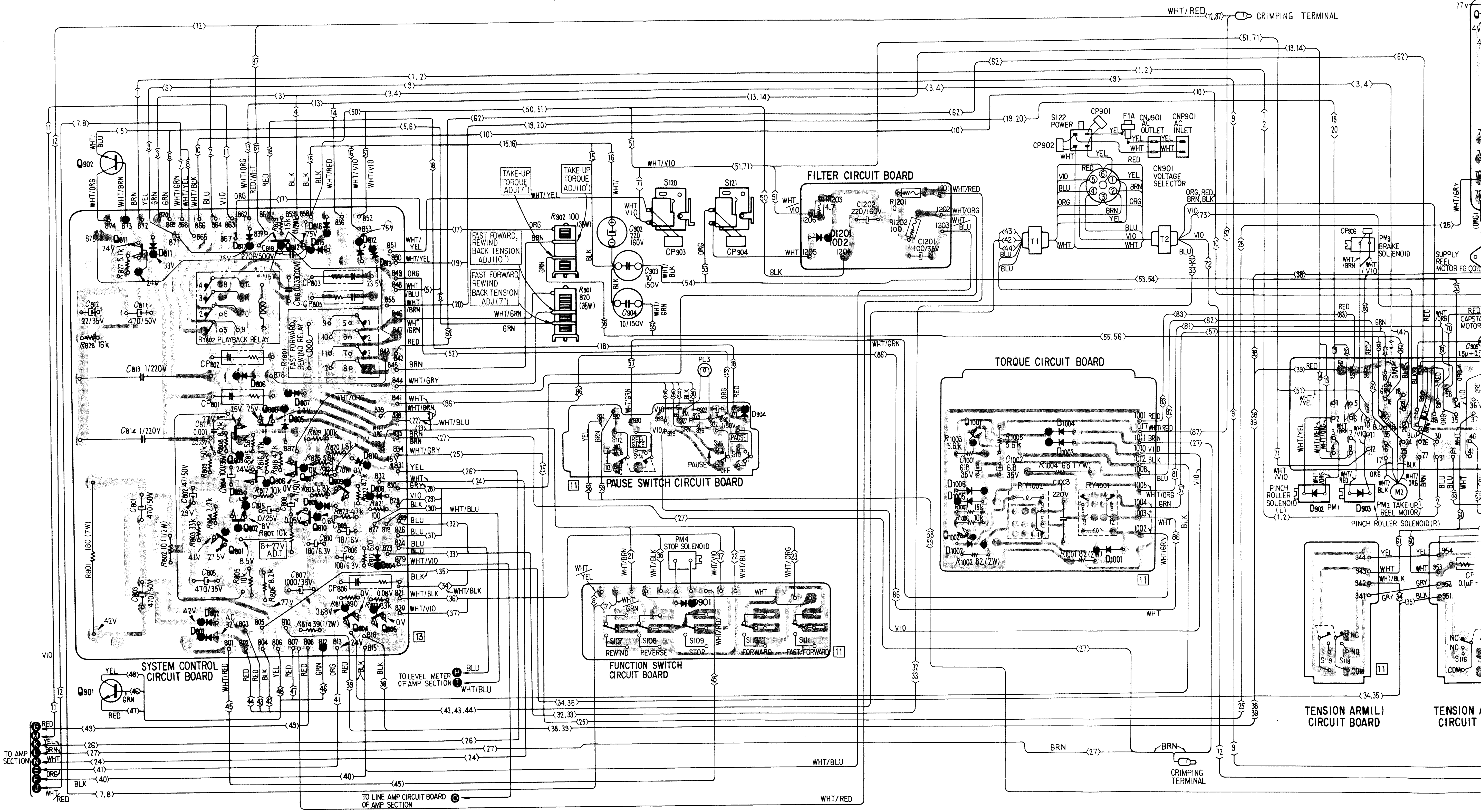
Ref. No.	Switch	Mode
S107, 108	rewind	OFF
S109	stop	OFF
S110	playback	OFF
S111	fast forward	OFF
S112, 114	REEL SIZE	10 ½
S113, 115	PAUSE	OFF
S116, 117	tension arm R	OFF
S118, 119	tension arm L	OFF
S120	PM1 drive	ON
S121	PM3 drive	ON
S122	POWER	OFF
S501	TAPE SPEED	19 cm 7 ½


TENSION REGULATOR CIRCUIT BOARD
Q707 2SC634A
Q708,709 2SC634A BOOTSTRAP INTEGRATOR
Q710~713 2SC634A
Q714 2SC1384
Q904 2SC867
FORWARD BACK TENSION REGULATOR CIRCUIT (Q707~714,904)
D707~710 10D2
TENSION REGULATOR ADJ(D)
TENSION REGULATOR ADJ(A)
TENSION REGULATOR ADJ(B)
TENSION REGULATOR ADJ(C)
D702 1T40
D705 D706 1T22
D703 MZ-08
D704 MZ-12
38cm
19cm
S501-1
Th701 S-10k(ATTACHED TO Q904)
PAUSE SWITCH CIRCUIT BOARD
S112
REEL SIZE
SERVO AMP CIRCUIT BOARD
S501 TAPE SPEED
Q903 2SC867
IC601 CXO32B
SERVO CIRCUIT(IC601,Q903)
D601 10D2
EMITTER FOLLOWER
COMPARATOR
INVERTOR
FLIP FLOP
SWITCHING
D602~605 10D2
TAPE SPEED ADJ 38cm
TAPE SPEED ADJ 19cm
TENSION ARM CIRCUIT BOARD
TAPE
NO TAPE
S117
S118
CAPSTAN MOTOR
IC624G
M3
FG COIL
TORQUE CIRCUIT BOARD
Q1001,1002 2SC634A
D1002 10D2
D1001 10D2
D1005,1006 1T40
D1003 1T40
D1004 1T40
RY1001
RY1002
SYSTEM CONTROL CIRCUIT BOARD
REWIND SWITCH (JOINTED WITH S108)
REWIND
OFF S107
PLAYBACK
FAST FORWARD REWIND
R901 820(35W)
FAST FORWARD, REWIND BACK TENSION ADJ
R902 100 (35W)
TAKE-AP TORQUE ADJ
SUPPLY REEL MOTOR
IC638R
M1
M2
TAKE-UP REEL MOTOR
AC50V
45V
T1
0V
18~22 not grounded
T2
TENSION REGULATOR CIRCUIT BOARD
Q706,705 2SC634A MONOSTABLE MULTIVIBRATOR
Q704,703 2SC634A SCHMIDT SHAPER
Q702,701 2SC634A DIFFERENTIAL
REEL ROTATION DETECTING CIRCUIT(Q701~706)
D701 1T40
S501-4
FILTER CIRCUIT BOARD
SYSTEM CONTROL CIRCUIT BOARD
Q806~808 2SC634A PLAYBACK RELAY CUT OFF CIRCUIT
PLAYBACK RELAY
FAST FORWARD, REWIND RELAY
RY802
RY801
D805 1T40
D806 10D2
D807 10D2
Q803 2SC634A
Q801,802 2SC634A 24V REGULATOR (Q801,2,901)
Q901 2SD291
D801,802 10D2
D803 MZ-08
B+27V ADJ
not grounded
AC32V
PAUSE SWITCH CIRCUIT BOARD
S114
FAST FORWARD REWIND
FILTER CIRCUIT BOARD
CP904
S121
AC75V
55V
AC55V
240V RED
220V VIO
127V BLU
120V ORG
110V BRN
100V YEL
0V WHT
CN901 VOLTAGE SELECTOR
STOP SOLENOID
PM4
TENSION ARM CIRCUIT BOARD
PAUSE SWITCH CIRCUIT BOARD
S113
S116
FUNCTION SWITCH CIRCUIT BOARD
S110
S111
S108
S109
STOP SWITCH
FAST FORWARD SWITCH
REWIND SWITCH
Q809,810 2SC634A
D810 1T22
D809 1T22
D808 1T40
PAUSE SWITCH CIRCUIT BOARD
PAUSE SWITCH S115
PL3 PAUSE LAMP
Q804,805 2SC634A
D804 1T40
RELAY STOP CIRCUIT (Q804,805)
PINCH ROLLER SOLENOID(R) PM2
BRAKE SOLENOID PM3
PM1 PINCH ROLLER SOLENOID(L)
D815,816 10D2
Q812 2SC1124
S120
Q902 2SD291
Q811 2SC634A
D811 10D2
D1201 10D2
AC24V
CP901
CP902
F1 1A
CNJ901 AC OUTLET
CNP901 AC INLET
S122 POWER
TO SCHEMATIC DIAGRAM OF AMP SECTION
L
P
O
G
E
N
K
F
I
H
J
M

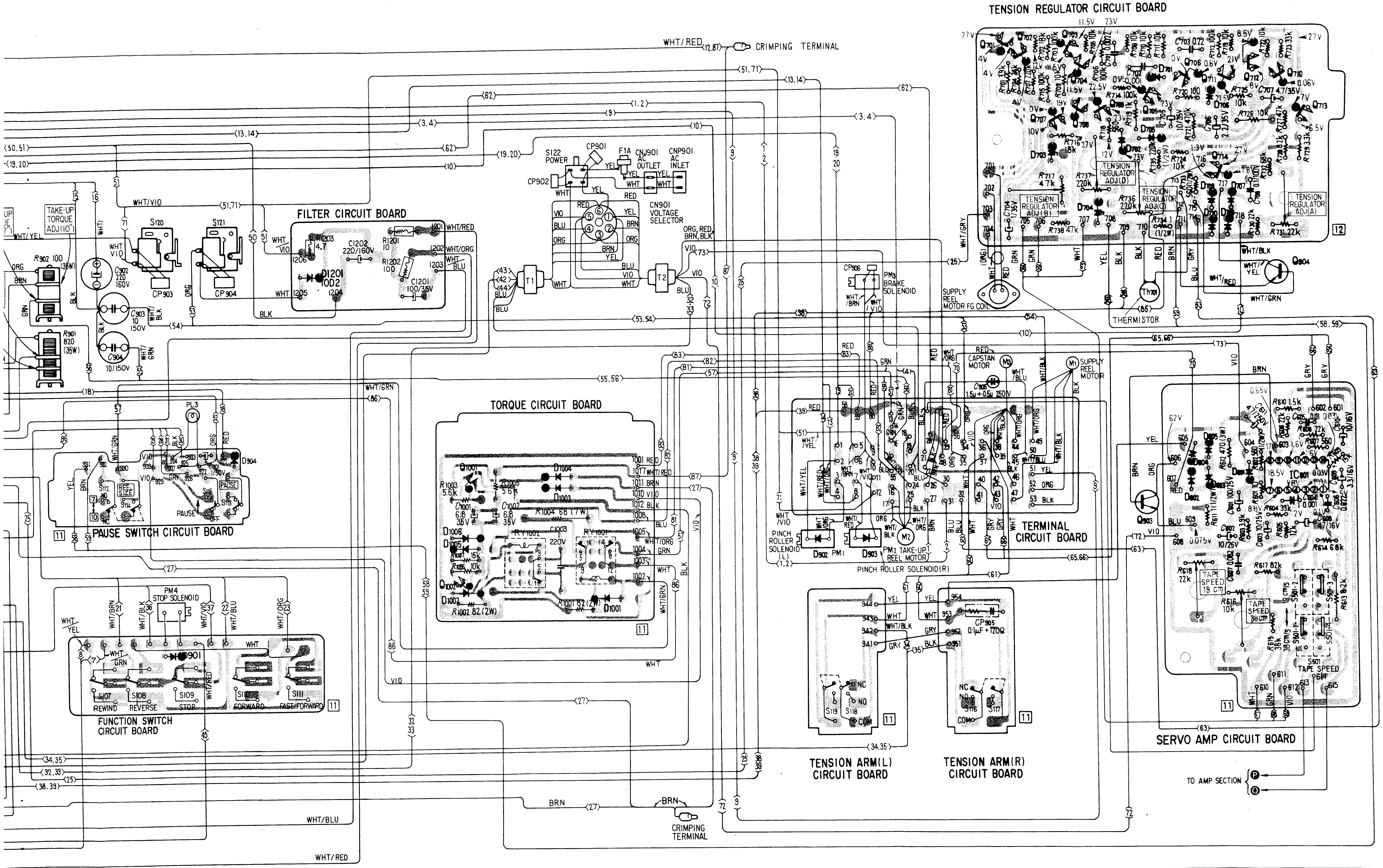
- CP801~806 : 0.033μ + 120Ω/500V
- CP903~906 : 0.1μ + 120Ω/500V

7. MOUNTING DIAGRAM (4) – System Control Section –

– Conductor Side –

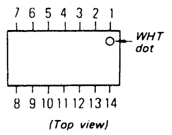

SYSTEM CONTROL CIRCUIT BOARD
RY802 PLAYBACK RELAY
RY801 FAST FORWARD, REWIND RELAY
B+ 27V ADJ
TAKE-UP TORQUE ADJ (7")
TAKE-UP TORQUE ADJ (10")
FAST FOWARD, REWIND BACK TENSION ADJ (10")
FAST FORWARD, REWIND BACK TENSION ADJ (7")
R902 100 (35W)
R901 820 (35W)
FILTER CIRCUIT BOARD
S122 POWER
CP901
CP902
F1A
CNJ901 AC OUTLET
CNP901 AC INLET
CN901 VOLTAGE SELECTOR
PAUSE SWITCH CIRCUIT BOARD
PM4 STOP SOLENOID
FUNCTION SWITCH CIRCUIT BOARD
S107 REWIND
S108 REVERSE
S109 STOP
S110 FORWARD
S111 FAST FORWARD
TORQUE CIRCUIT BOARD
RY1002
RY1001
PM3 BRAKE SOLENOID
SUPPLY REEL MOTOR FG COIL
CAPSTAN MOTOR
PINCH ROLLER SOLENOID (L)
PM1
PM2 TAKE-UP REEL MOTOR
PINCH ROLLER SOLENOID (R)
TENSION ARM (L) CIRCUIT BOARD
TENSION ARM
CIRCUIT
CRIMPING TERMINAL
TO LEVEL METER OF AMP SECTION
TO LINE AMP CIRCUIT BOARD OF AMP SECTION
TO AMP SECTION
Q901
Q902
WHT/RED
WHT/BLU
BRN

Q, IC	Q902 Q811 Q901 Q803 Q802 Q801 Q808 Q806 Q812 Q807 Q809 Q810 Q804 Q805 Q1001 Q1002
D	D811 D802 D801 D817 D806 D803 D807 D805 D816 D815 D809 D812 D813 D810 D808 D804 D904 D901 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903
ADJ	R902 R901

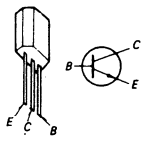

TENSION REGULATOR CIRCUIT BOARD
FILTER CIRCUIT BOARD
TORQUE CIRCUIT BOARD
PAUSE SWITCH CIRCUIT BOARD
FUNCTION SWITCH CIRCUIT BOARD
TERMINAL CIRCUIT BOARD
SERVO AMP CIRCUIT BOARD
TENSION ARM(L) CIRCUIT BOARD
TENSION ARM(R) CIRCUIT BOARD
CRIMPING TERMINAL
TAKE-UP TORQUE ADJ(10")
S122 POWER
CP901
F1A
CNJ901 AC OUTLET
CNP901 AC INLET
CN901 VOLTAGE SELECTOR
PM3 BRAKE SOLENOID
SUPPLY REEL MOTOR FG COIL
CAPSTAN MOTOR
SUPPLY REEL MOTOR
THERMISTOR
PINCH ROLLER SOLENOID (L)
PINCH ROLLER SOLENOID(R)
PM2 TAKE-UP REEL MOTOR
PM4 STOP SOLENOID
REWIND
REVERSE
STOP
FORWARD
FAST/FORWARD
PAUSE
REEL SIZE
TENSION REGULATOR ADJ(A)
TENSION REGULATOR ADJ(B)
TENSION REGULATOR ADJ(C)
TENSION REGULATOR ADJ(D)
TAPE SPEED 19 cm
TAPE SPEED 38cm
TO AMP SECTION

	Q1001 Q1002 Q701 702 703 Q707 Q704 Q709 Q708 Q705 Q706 Q903 Q711 Q714 Q712 Q710 Q904 Q713 IC601
	D904 D901 D1006 D1005 D1002 D1004 D1003 D1001 D902 D903 D703 D702 D708 D701 D705 D604 D605 D602 D603 D709 D707 D710 D708 D601
	R902 R901 R717 R737 R736 R618 R616 R731

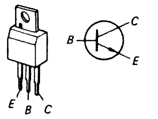
IC601 : CX032B


7 6 5 4 3 2 1
WHT dot
8 9 10 11 12 13 14
(Top view)

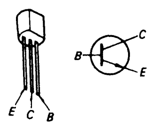
Q701 ~ 713, 801 ~ 811, 1001, 1002 : 2SC634A



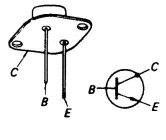
Q812 : 2SC1124



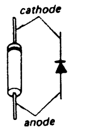
Q714 : 2SC1384



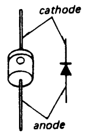
Q903, 904 : 2SC867
Q901, 902 : 2SD291



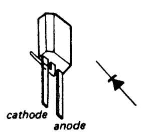
D705, 706, 809, 810 : 1
D701, 702, 804, 805, 808, 1003 ~ 1006 : 1


cathode
anode

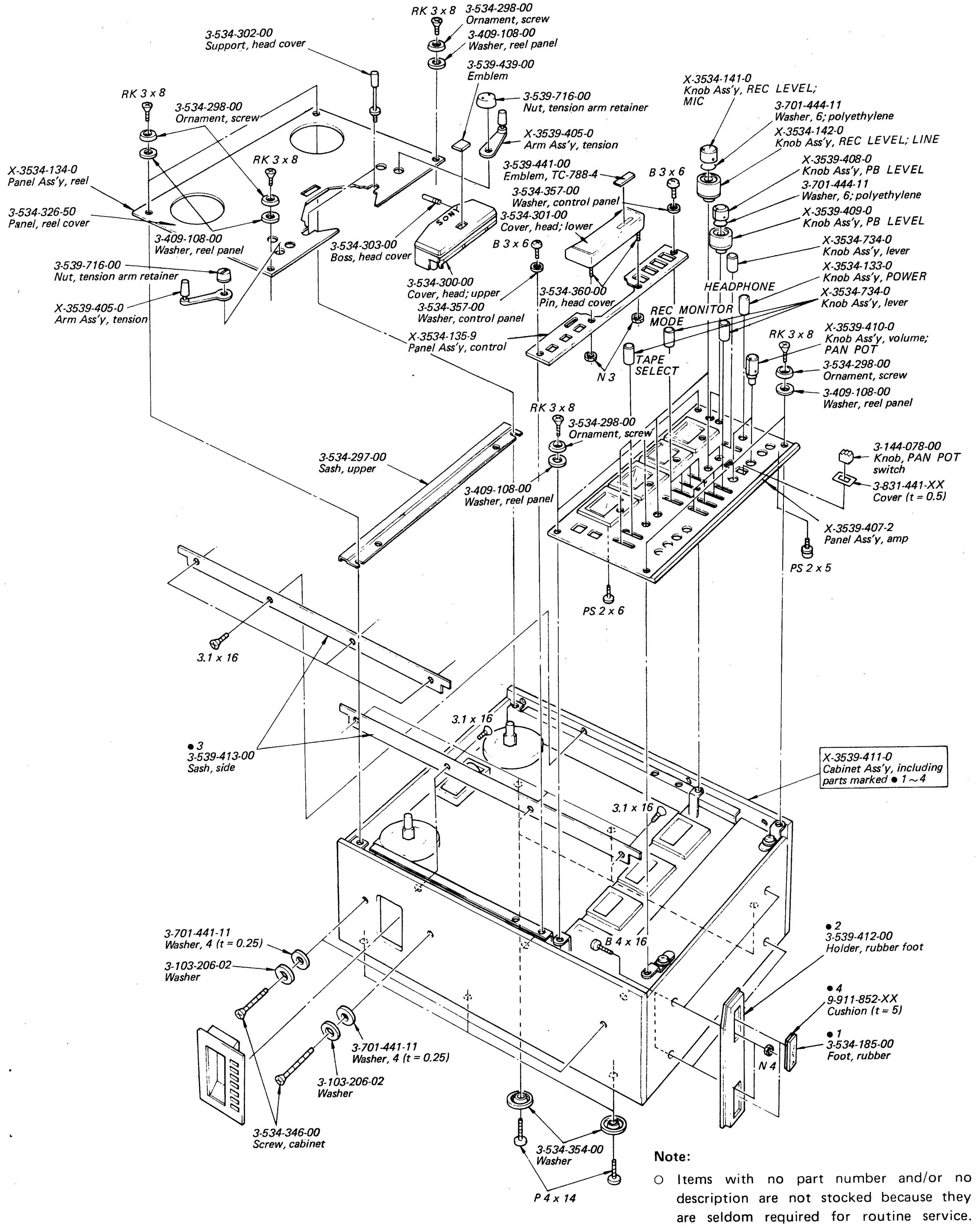
D601 ~ 605, 707 ~ 710, 801, 802, 806, 807, 811 ~ 817, 901 ~ 904, 1001, 1002 : 10D-2


cathode
anode

D703, 803 : MZ08
D704 : MZ12


cathode
anode

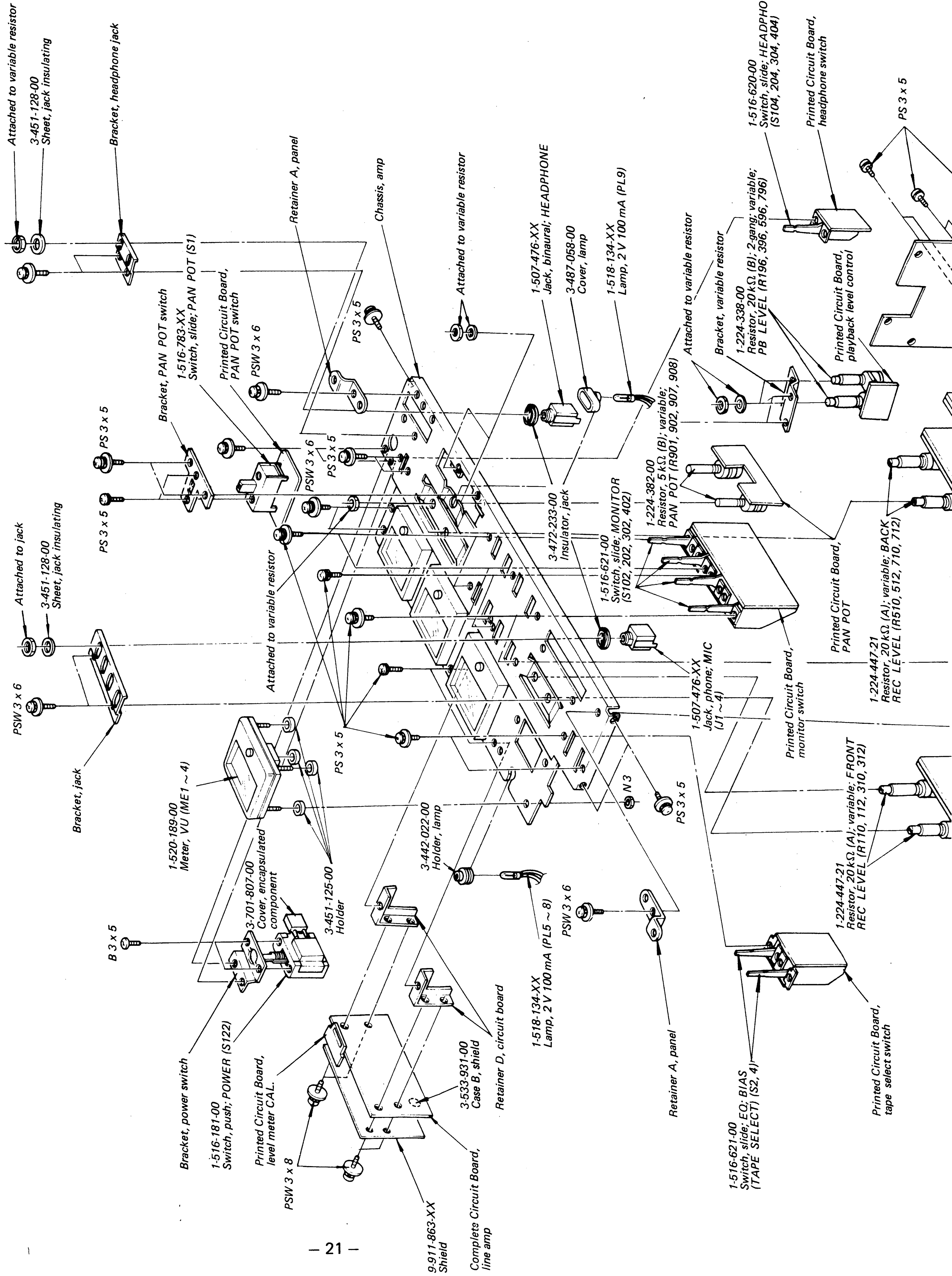
8. EXPLODED VIEW (1)


RK 3 x 8
3-534-298-00
Ornament, screw
3-409-108-00
Washer, reel panel
3-539-439-00
Emblem
3-534-302-00
Support, head cover
RK 3 x 8
3-534-298-00
Ornament, screw
3-539-716-00
Nut, tension arm retainer
X-3539-405-0
Arm Ass'y, tension
RK 3 x 8
X-3534-134-0
Panel Ass'y, reel
3-534-326-50
Panel, reel cover
3-409-108-00
Washer, reel panel
3-539-716-00
Nut, tension arm retainer
X-3539-405-0
Arm Ass'y, tension
3-534-303-00
Boss, head cover
3-539-441-00
Emblem, TC-788-4
3-534-357-00
Washer, control panel
3-534-301-00
Cover, head; lower
B 3 x 6
B 3 x 6
3-534-300-00
Cover, head; upper
3-534-357-00
Washer, control panel
3-534-360-00
Pin, head cover
X-3534-135-9
Panel Ass'y, control
N 3
X-3534-141-0
Knob Ass'y, REC LEVEL; MIC
3-701-444-11
Washer, 6; polyethylene
X-3534-142-0
Knob Ass'y, REC LEVEL; LINE
X-3539-408-0
Knob Ass'y, PB LEVEL
3-701-444-11
Washer, 6; polyethylene
X-3539-409-0
Knob Ass'y, PB LEVEL
X-3534-734-0
Knob Ass'y, lever
X-3534-133-0
Knob Ass'y, POWER
X-3534-734-0
Knob Ass'y, lever
HEADPHONE
REC MONITOR MODE
TAPE SELECT
RK 3 x 8
X-3539-410-0
Knob Ass'y, volume; PAN POT
3-534-298-00
Ornament, screw
3-409-108-00
Washer, reel panel
RK 3 x 8
3-534-298-00
Ornament, screw
3-409-108-00
Washer, reel panel
3-144-078-00
Knob, PAN POT switch
3-831-441-XX
Cover (t = 0.5)
X-3539-407-2
Panel Ass'y, amp
PS 2 x 5
PS 2 x 6
3-534-297-00
Sash, upper
3.1 x 16
● 3
3-539-413-00
Sash, side
3.1 x 16
3.1 x 16
X-3539-411-0
Cabinet Ass'y, including parts marked ● 1 ~ 4
B 4 x 16
● 2
3-539-412-00
Holder, rubber foot
● 4
9-911-852-XX
Cushion (t = 5)
● 1
3-534-185-00
Foot, rubber
N 4
3-701-441-11
Washer, 4 (t = 0.25)
3-103-206-02
Washer
3-701-441-11
Washer, 4 (t = 0.25)
3-103-206-02
Washer
3-534-346-00
Screw, cabinet
3-534-354-00
Washer
P 4 x 14

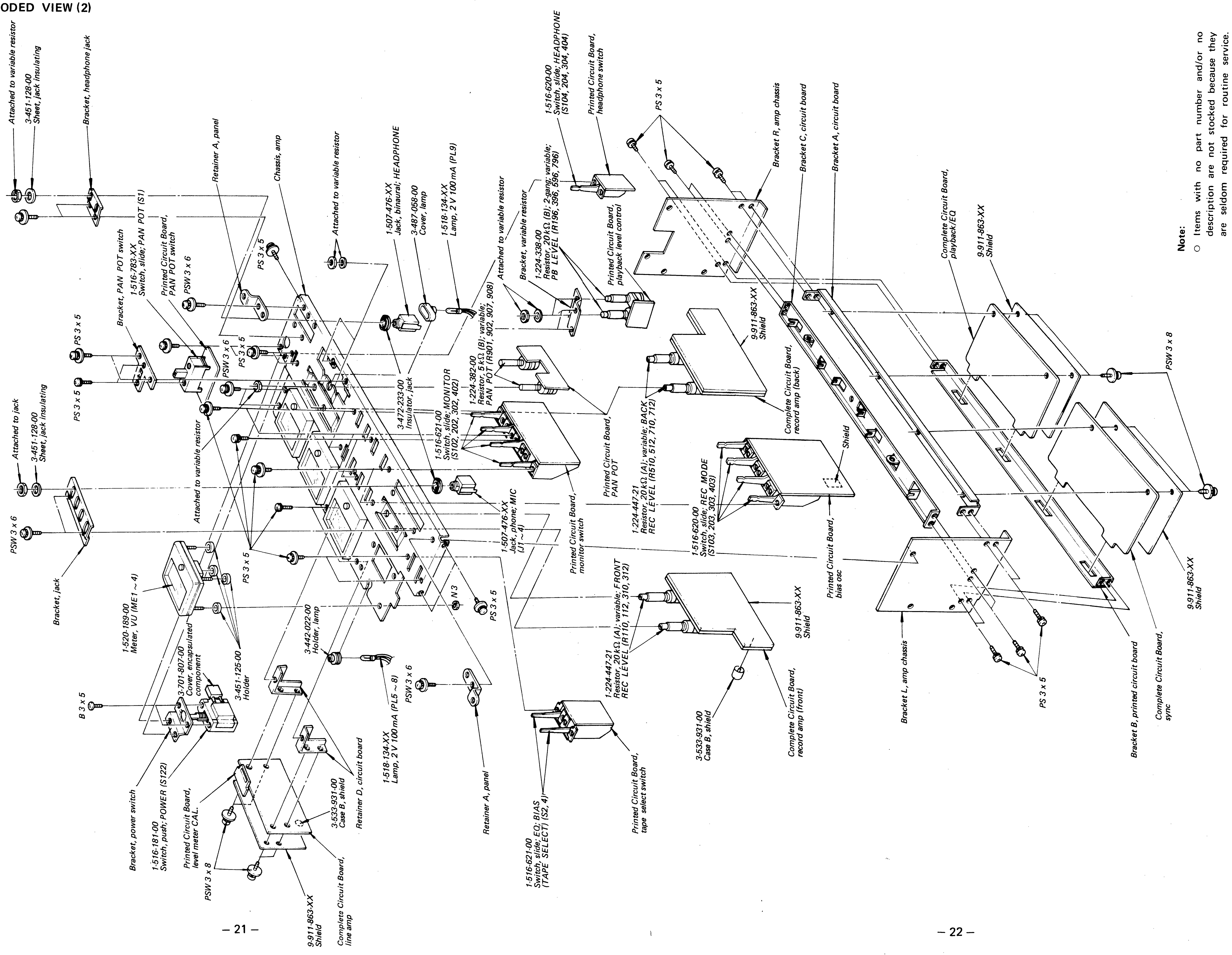
Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

9. EXPLODED VIEW (2)


Attached to variable resistor
3-451-128-00
Sheet, jack insulating
Bracket, headphone jack
Retainer A, panel
Chassis, amp
Attached to variable resistor
1-507-476-XX
Jack, binaural; HEADPHONE
3-487-058-00
Cover, lamp
1-518-134-XX
Lamp, 2 V 100 mA (PL9)
Attached to variable resistor
Bracket, variable resistor
1-224-338-00
Resistor, 20 kΩ (B); 2-gang; variable; PB LEVEL (R196, 396, 596, 796)
1-516-620-00
Switch, slide; HEADPHONE (S104, 204, 304, 404)
Printed Circuit Board, headphone switch
Printed Circuit Board, playback level control
PS 3 x 5
Bracket, PAN POT switch
1-516-783-XX
Switch, slide; PAN POT (S1)
Printed Circuit Board, PAN POT switch
PSW 3 x 6
PS 3 x 5
PS 3 x 5
PS 3 x 5
PSW 3 x 6
PS 3 x 5
1-224-382-00
Resistor, 5 kΩ (B); variable; PAN POT (R901, 902, 907, 908)
3-472-233-00
Insulator, jack
1-516-621-00
Switch, slide; MONITOR (S102, 202, 302, 402)
Printed Circuit Board, PAN POT
1-224-447-21
Resistor, 20 kΩ (A); variable; BACK REC LEVEL (R510, 512, 710, 712)
Attached to jack
3-451-128-00
Sheet, jack insulating
PSW 3 x 6
Bracket, jack
Attached to variable resistor
1-507-476-XX
Jack, phone; MIC (J1 ~ 4)
Printed Circuit Board, monitor switch
1-224-447-21
Resistor, 20 kΩ (A); variable; FRONT REC LEVEL (R110, 112, 310, 312)
1-520-189-00
Meter, VU (ME1 ~ 4)
PS 3 x 5
N 3
PS 3 x 5
3-442-022-00
Holder, lamp
3-701-807-00
Cover, encapsulated component
3-451-125-00
Holder
B 3 x 5
1-518-134-XX
Lamp, 2 V 100 mA (PL5 ~ 8)
PSW 3 x 6
Bracket, power switch
1-516-181-00
Switch, push; POWER (S122)
Printed Circuit Board, level meter CAL.
PSW 3 x 8
3-533-931-00
Case B, shield
Retainer D, circuit board
Retainer A, panel
1-516-621-00
Switch, slide; EQ; BIAS (TAPE SELECT) (S2, 4)
Printed Circuit Board, tape select switch
9-911-863-XX
Shield
Complete Circuit Board, line amp

9. EXPLODED VIEW (2)


Attached to variable resistor
3-451-128-00
Sheet, jack insulating
Bracket, headphone jack
1-516-783-XX
Switch, slide; PAN POT (S1)
Bracket, PAN POT switch
Printed Circuit Board, PAN POT switch
PSW 3 x 6
PS 3 x 5
PS 3 x 5
Retainer A, panel
Chassis, amp
PS 3 x 5
Attached to variable resistor
1-507-476-XX
Jack, binaural; HEADPHONE
3-487-058-00
Cover, lamp
1-518-134-XX
Lamp, 2 V 100 mA (PL9)
Attached to variable resistor
Bracket, variable resistor
1-224-338-00
Resistor, 20 kΩ (B); 2-gang; variable; PB LEVEL (R196, 396, 596, 796)
1-516-620-00
Switch, slide; HEADPHONE (S104, 204, 304, 404)
Printed Circuit Board, headphone switch
Printed Circuit Board, playback level control
PS 3 x 5
Bracket R, amp chassis
Bracket C, circuit board
Bracket A, circuit board
Complete Circuit Board, playback/EQ
9-911-863-XX
Shield
PSW 3 x 8
PSW 3 x 6
PS 3 x 5
PS 3 x 5
Attached to jack
3-451-128-00
Sheet, jack insulating
PSW 3 x 6
PS 3 x 5
3-472-233-00
Insulator, jack
1-516-621-00
Switch, slide; MONITOR (S102, 202, 302, 402)
1-224-382-00
Resistor, 5 kΩ (B); variable; PAN POT (R901, 902, 907, 908)
Printed Circuit Board, PAN POT
9-911-863-XX
Shield
Complete Circuit Board, record amp (back)
1-224-447-21
Resistor, 20 kΩ (A); variable; BACK REC LEVEL (R510, 512, 710, 712)
Shield
1-516-620-00
Switch, slide; REC MODE (S103, 203, 303, 403)
Printed Circuit Board, bias osc
Attached to variable resistor
1-507-476-XX
Jack, phone; MIC (J1 ~ 4)
Printed Circuit Board, monitor switch
Bracket, jack
PS 3 x 5
N 3
PS 3 x 5
1-520-189-00
Meter, VU (ME1 ~ 4)
3-701-807-00
Cover, encapsulated component
3-451-125-00
Holder
3-442-022-00
Holder, lamp
PSW 3 x 6
1-224-447-21
Resistor, 20 kΩ (A); variable; FRONT REC LEVEL (R110, 112, 310, 312)
9-911-863-XX
Shield
Complete Circuit Board, record amp (front)
3-533-931-00
Case B, shield
Bracket L, amp chassis
PS 3 x 5
Bracket B, printed circuit board
Complete Circuit Board, sync
9-911-863-XX
Shield
B 3 x 5
Bracket, power switch
1-516-181-00
Switch, push; POWER (S122)
Printed Circuit Board, level meter CAL.
PSW 3 x 8
9-911-863-XX
Shield
Complete Circuit Board, line amp
3-533-931-00
Case B, shield
Retainer D, circuit board
1-518-134-XX
Lamp, 2 V 100 mA (PL5 ~ 8)
Retainer A, panel
1-516-621-00
Switch, slide; EQ; BIAS (TAPE SELECT) (S2, 4)
Printed Circuit Board, tape select switch

Note:
- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

; LINE
/EL
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VER
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el
078-00
PAN POT
441-XX
(t = 0.5)
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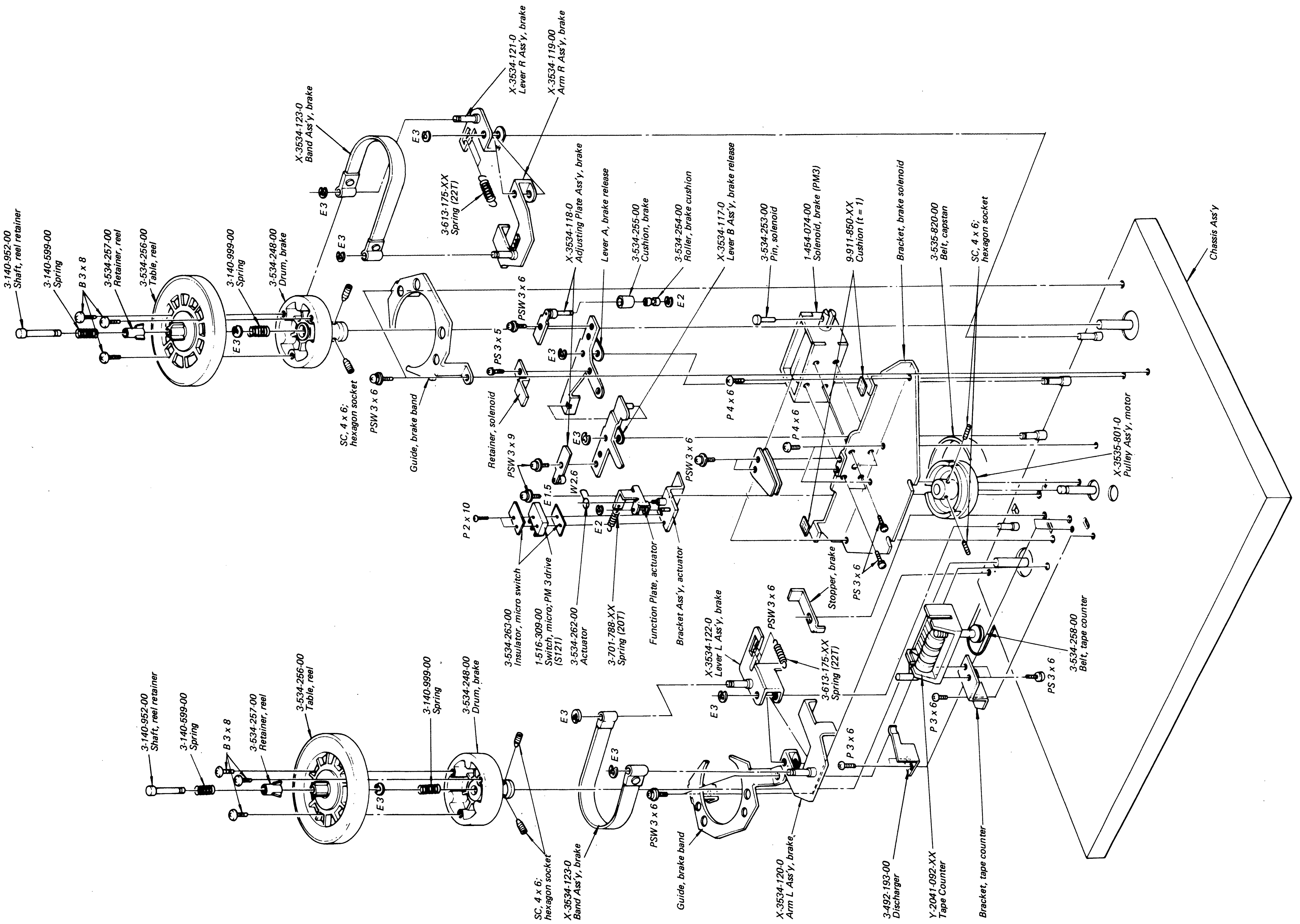
use they
service.
ess) type

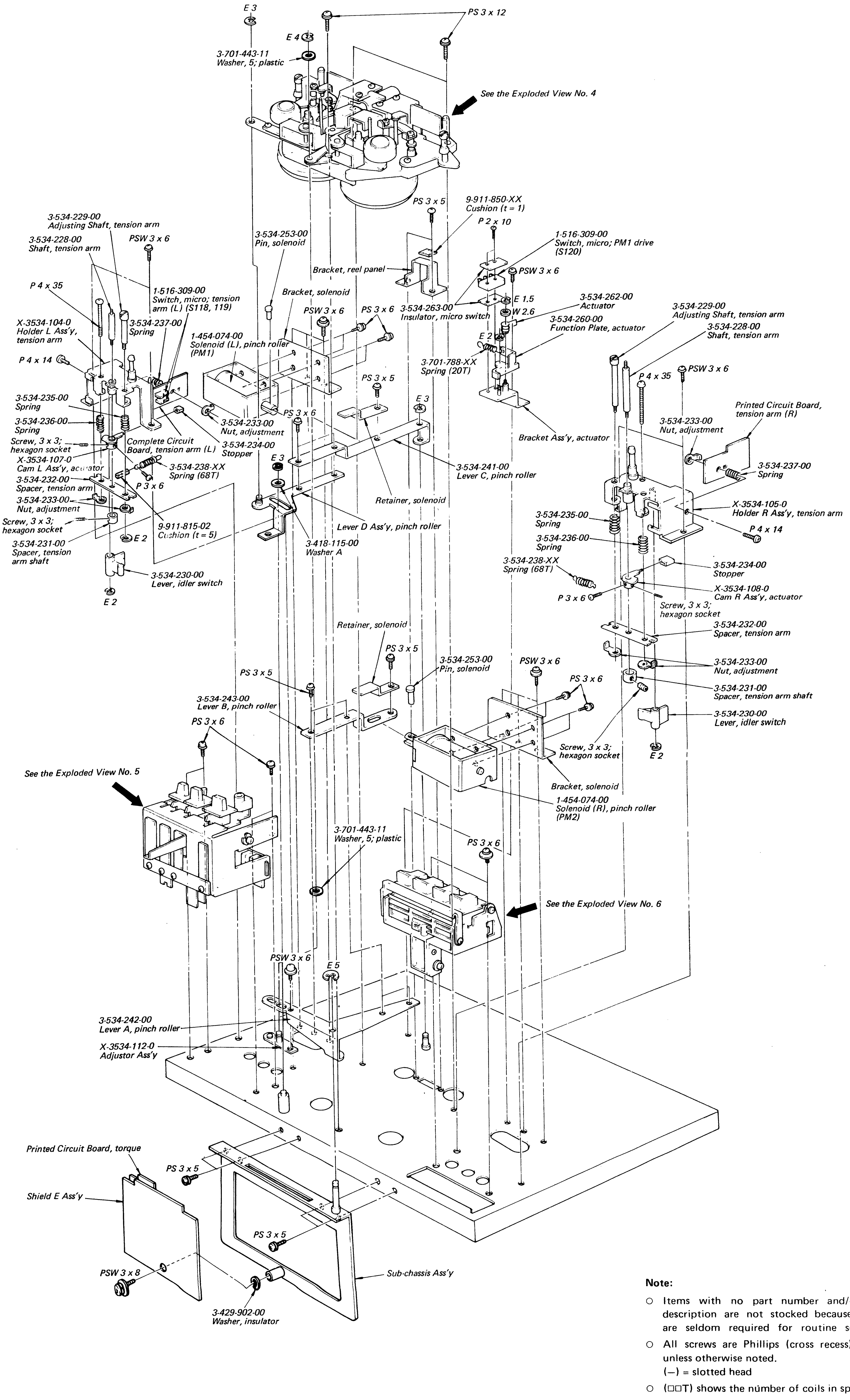
10. EXPLODED VIEW (3)


3-140-952-00
Shaft, reel retainer
3-140-599-00
Spring
B 3 x 8
3-534-257-00
Retainer, reel
3-534-256-00
Table, reel
E 3
3-140-999-00
Spring
3-534-248-00
Drum, brake
SC, 4 x 6;
hexagon socket
PSW 3 x 6
Guide, brake band
X-3534-123-0
Band Ass'y, brake
E 3
X-3534-121-0
Lever R Ass'y, brake
X-3534-119-00
Arm R Ass'y, brake
3-613-175-XX
Spring (22T)
PSW 3 x 6
PS 3 x 5
Retainer, solenoid
PSW 3 x 9
X-3534-118-0
Adjusting Plate Ass'y, brake
Lever A, brake release
3-534-255-00
Cushion, brake
3-534-254-00
Roller, brake cushion
E 2
X-3534-117-0
Lever B Ass'y, brake release
3-534-253-00
Pin, solenoid
1-454-074-00
Solenoid, brake (PM3)
9-911-850-XX
Cushion (t = 1)
Bracket, brake solenoid
3-535-820-00
Belt, capstan
SC, 4 x 6;
hexagon socket
Chassis Ass'y
P 4 x 6
E 1.5
W 2.6
P 2 x 10
3-534-263-00
Insulator, micro switch
1-516-309-00
Switch, micro; PM 3drive
(S121)
3-534-262-00
Actuator
3-701-788-XX
Spring (20T)
Function Plate, actuator
Bracket Ass'y, actuator
X-3535-801-0
Pulley Ass'y, motor
Stopper, brake
PS 3 x 6
X-3534-122-0
Lever L Ass'y, brake
3-613-175-XX
Spring (22T)
3-534-258-00
Belt, tape counter
3-140-952-00
Shaft, reel retainer
3-140-599-00
Spring
B 3 x 8
3-534-257-00
Retainer, reel
3-534-256-00
Table, reel
3-140-999-00
Spring
3-534-248-00
Drum, brake
SC, 4 x 6;
hexagon socket
X-3534-123-0
Band Ass'y, brake
PSW 3 x 6
Guide, brake band
X-3534-120-0
Arm L Ass'y, brake
P 3 x 6
3-492-193-00
Discharger
Y-2041-092-XX
Tape Counter
Bracket, tape counter

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- ○ (□□T) shows the number of coils in spring.

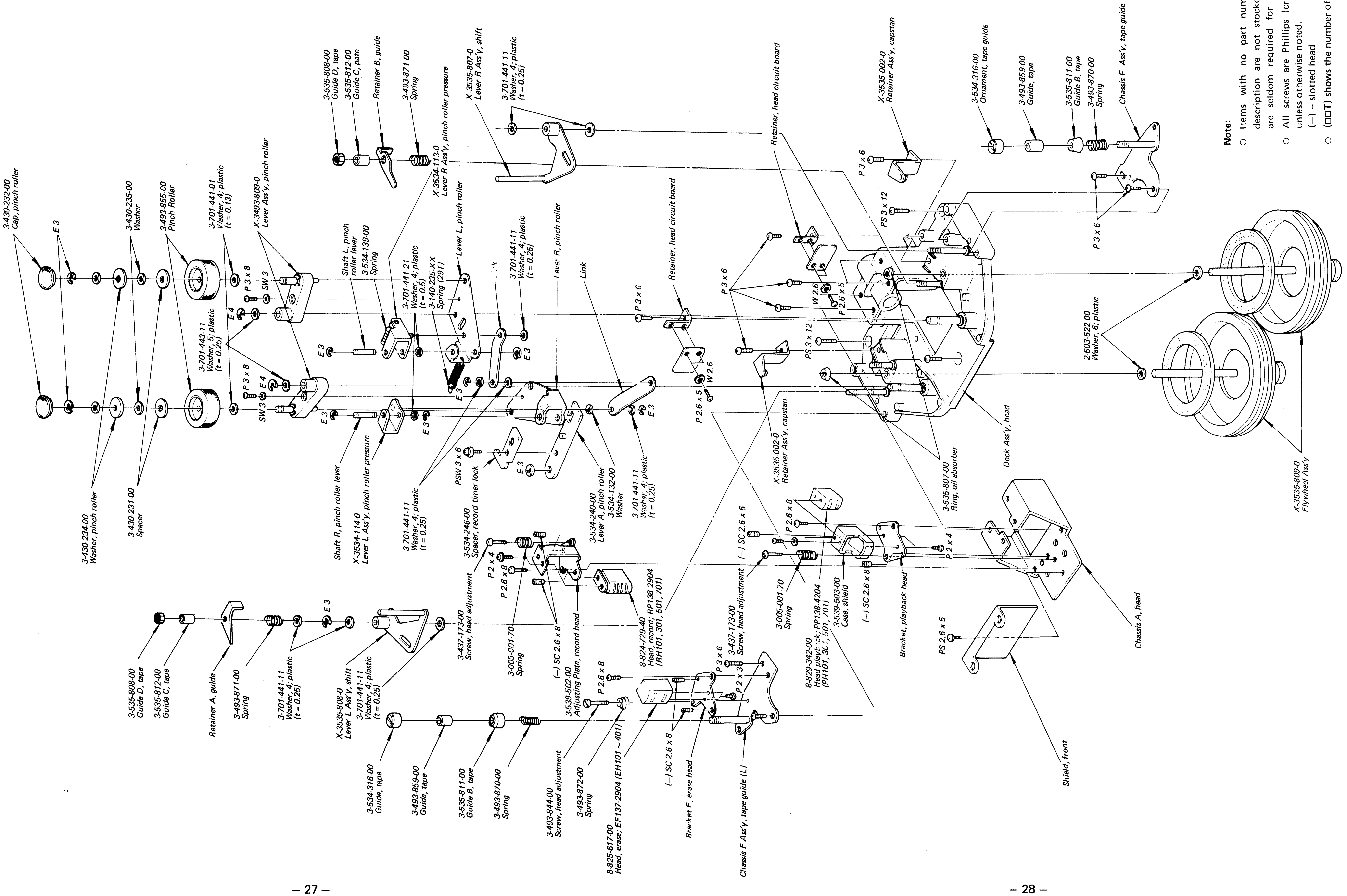
11. EXPLODED VIEW (4)


E 3
PS 3 x 12
E 4
3-701-443-11
Washer, 5; plastic
See the Exploded View No. 4
PS 3 x 5
9-911-850-XX
Cushion (t = 1)
P 2 x 10
1-516-309-00
Switch, micro; PM1 drive
(S120)
PSW 3 x 6
3-534-229-00
Adjusting Shaft, tension arm
3-534-228-00
Shaft, tension arm
PSW 3 x 6
3-534-253-00
Pin, solenoid
Bracket, reel panel
P 4 x 35
1-516-309-00
Switch, micro; tension
arm (L) (S118, 119)
Bracket, solenoid
PSW 3 x 6
PS 3 x 6
3-534-263-00
Insulator, micro switch
E 1.5
W 2.6
3-534-262-00
Actuator
3-534-260-00
Function Plate, actuator
3-534-229-00
Adjusting Shaft, tension arm
3-534-228-00
Shaft, tension arm
X-3534-104-0
Holder L Ass'y,
tension arm
3-534-237-00
Spring
1-454-074-00
Solenoid (L), pinch roller
(PM1)
E 2
3-701-788-XX
Spring (20T)
PSW 3 x 6
P 4 x 35
P 4 x 14
PS 3 x 5
3-534-235-00
Spring
E 3
Printed Circuit Board,
tension arm (R)
3-534-233-00
Nut, adjustment
3-534-236-00
Spring
PS 3 x 6
3-534-233-00
Nut, adjustment
Screw, 3 x 3;
hexagon socket
Complete Circuit
Board, tension arm (L)
3-534-234-00
Stopper
Bracket Ass'y, actuator
X-3534-107-0
Cam L Ass'y, actuator
E 3
3-534-238-XX
Spring (68T)
3-534-241-00
Lever C, pinch roller
3-534-237-00
Spring
3-534-232-00
Spacer, tension arm
P 3 x 6
Retainer, solenoid
X-3534-105-0
Holder R Ass'y, tension arm
3-534-233-00
Nut, adjustment
3-534-235-00
Spring
P 4 x 14
Screw, 3 x 3;
hexagon socket
9-911-815-02
Cushion (t = 5)
Lever D Ass'y, pinch roller
E 2
3-534-236-00
Spring
3-534-231-00
Spacer, tension
arm shaft
3-418-115-00
Washer A
3-534-238-XX
Spring (68T)
3-534-234-00
Stopper
3-534-230-00
Lever, idler switch
X-3534-108-0
Cam R Ass'y, actuator
P 3 x 6
E 2
Screw, 3 x 3;
hexagon socket
Retainer, solenoid
3-534-232-00
Spacer, tension arm
PS 3 x 5
3-534-253-00
Pin, solenoid
PSW 3 x 6
PS 3 x 5
3-534-233-00
Nut, adjustment
PS 3 x 6
3-534-243-00
Lever B, pinch roller
3-534-231-00
Spacer, tension arm shaft
PS 3 x 6
3-534-230-00
Lever, idler switch
Screw, 3 x 3;
hexagon socket
E 2
See the Exploded View No. 5
Bracket, solenoid
1-454-074-00
Solenoid (R), pinch roller
(PM2)
3-701-443-11
Washer, 5; plastic
PS 3 x 6
See the Exploded View No. 6
PSW 3 x 6
E 5
3-534-242-00
Lever A, pinch roller
X-3534-112-0
Adjustor Ass'y
Printed Circuit Board, torque
PS 3 x 5
Shield E Ass'y
PS 3 x 5
Sub-chassis Ass'y
PSW 3 x 8
3-429-902-00
Washer, insulator

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- ○ (□□T) shows the number of coils in spring.

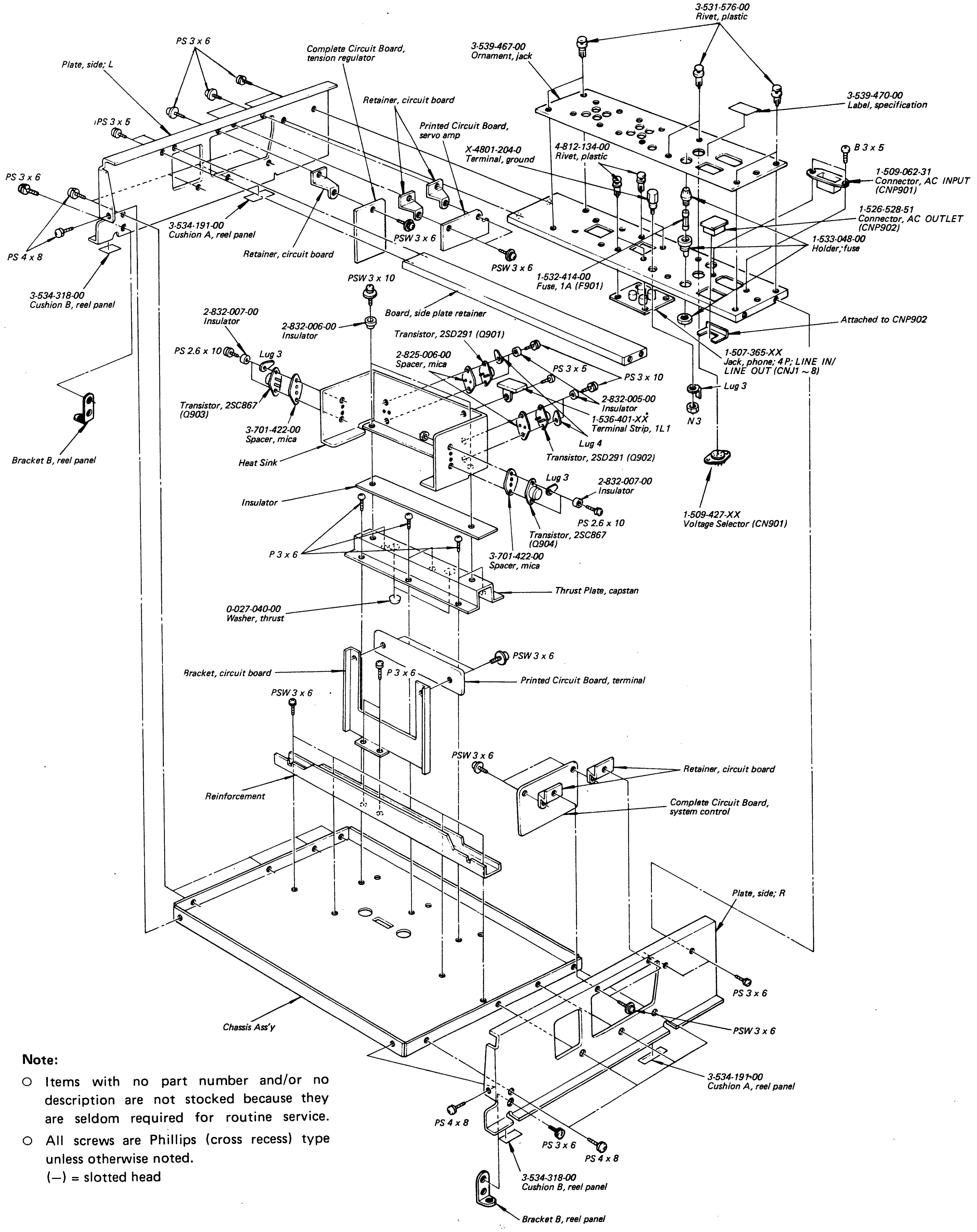
12. EXPLODED VIEW (5)


3-430-232-00 Cap, pinch roller
E 3
3-430-235-00 Washer
3-493-855-00 Pinch Roller
3-701-441-01 Washer, 4; plastic (t = 0.13)
X-3493-809-0 Lever Ass'y, pinch roller
P 3 x 8
SW 3
E 4
3-701-443-11 Washer, 5; plastic (t = 0.25)
P 3 x 8
E 4
SW 3
E 3
3-430-234-00 Washer, pinch roller
3-430-231-00 Spacer
Shaft L, pinch roller lever
3-534-139-00 Spring
3-701-441-21 Washer, 4; plastic (t = 0.5)
3-140-235-XX Spring (29T)
E 3
Lever L, pinch roller
X-3534-113-0 Lever R Ass'y, pinch roller pressure
3-535-808-00 Guide D, tape
3-535-812-00 Guide C, pate
Retainer B, guide
3-493-871-00 Spring
X-3535-807-0 Lever R Ass'y, shift
3-701-441-11 Washer, 4; plastic (t = 0.25)
3-701-441-11 Washer, 4; plastic (t = 0.25)
E 3
E 3
Lever R, pinch roller
Link
E 3
Shaft R, pinch roller lever
X-3534-114-0 Lever L Ass'y, pinch roller pressure
3-701-441-11 Washer, 4; plastic (t = 0.25)
PSW 3 x 6
E 3
3-534-246-00 Spacer, record timer lock
3-534-240-00 Lever A, pinch roller
3-534-132-00 Washer
3-701-441-11 Washer, 4; plastic (t = 0.25)
P 3 x 6
Retainer, head circuit board
W 2.6
P 2.6 x 5
Retainer, head circuit board
P 3 x 6
W 2.6
P 2.6 x 5
PS 3 x 12
X-3535-002-0 Retainer Ass'y, capstan
P 3 x 6
PS 3 x 12
P 3 x 6
3-534-316-00 Ornament, tape guide
3-493-859-00 Guide, tape
3-535-811-00 Guide B, tape
3-493-870-00 Spring
Chassis F Ass'y, tape guide (R)
2-603-522-00 Washer, 6; plastic
X-3535-809-0 Flywheel Ass'y
Deck Ass'y, head
3-535-807-00 Ring, oil absorber
X-3535-002-0 Retainer Ass'y, capstan
(–) SC 2.6 x 6
P 2.6 x 8
P 2 x 4
Chassis A, head
3-005-001-70 Spring
8-829-342-00 Head playback; PP138-4204 (PH101, 301, 501, 701)
3-539-503-00 Case, shield
(–) SC 2.6 x 8
Bracket, playback head
PS 2.6 x 5
Shield, front
P 2 x 4
P 2.6 x 8
3-437-173-00 Screw, head adjustment
3-005-001-70 Spring
(–) SC 2.6 x 8
3-539-502-00 Adjusting Plate, record head
8-824-729-40 Head, record; RP138-2904 (RH101, 301, 501, 701)
3-437-173-00 Screw, head adjustment
P 3 x 6
P 2 x 3
P 2.6 x 8
E 3
3-535-808-00 Guide D, tape
3-535-812-00 Guide C, tape
Retainer A, guide
3-493-871-00 Spring
3-701-441-11 Washer, 4; plastic (t = 0.25)
X-3535-808-0 Lever L Ass'y, shift
3-701-441-11 Washer, 4; plastic (t = 0.25)
3-534-316-00 Guide, tape
3-493-859-00 Guide, tape
3-535-811-00 Guide B, tape
3-493-870-00 Spring
3-493-844-00 Screw, head adjustment
3-493-872-00 Spring
8-825-617-00 Head, erase; EF137-2904 (EH101 ~ 401)
(–) SC 2.6 x 8
Bracket F, erase head
Chassis F Ass'y, tape guide (L)

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head
- ○ (□□T) shows the number of coils in spring.

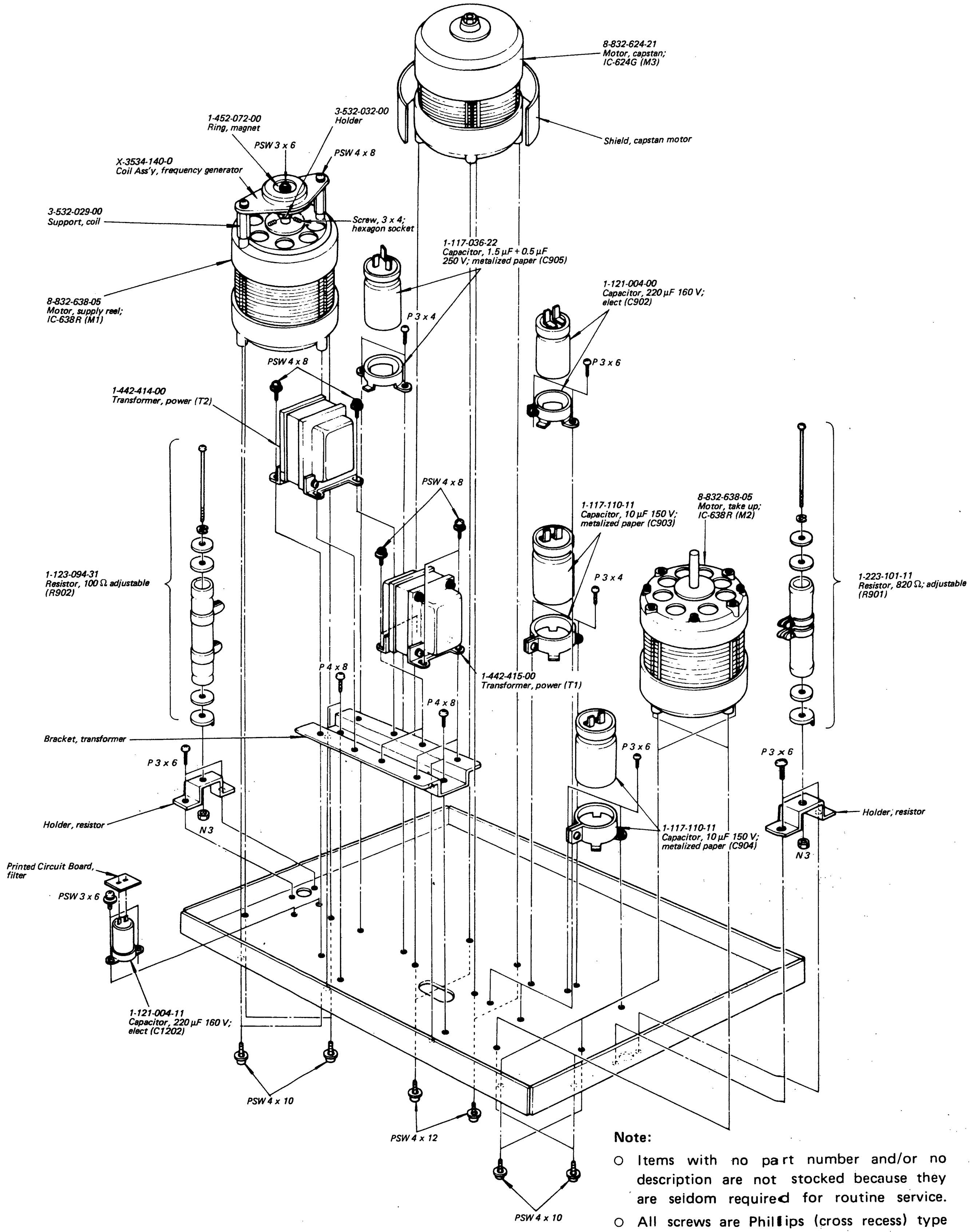
13. EXPLODED VIEW (6)


Plate, side; L
PS 3 x 6
PS 3 x 5
PS 3 x 6
PS 4 x 8
3-534-318-00
Cushion B, reel panel
Bracket B, reel panel
3-534-191-00
Cushion A, reel panel
Retainer, circuit board
Complete Circuit Board, tension regulator
Retainer, circuit board
Printed Circuit Board, servo amp
PSW 3 x 6
PSW 3 x 6
PSW 3 x 10
Board, side plate retainer
3-539-467-00
Ornament, jack
3-531-576-00
Rivet, plastic
3-539-470-00
Label, specification
X-4801-204-0
Terminal, ground
4-812-134-00
Rivet, plastic
B 3 x 5
1-509-062-31
Connector, AC INPUT (CNP901)
1-526-528-51
Connector, AC OUTLET (CNP902)
1-533-048-00
Holder, fuse
1-532-414-00
Fuse, 1A (F901)
Attached to CNP902
1-507-365-XX
Jack, phone; 4P; LINE IN/ LINE OUT (CNJ1 ~ 8)
Lug 3
N 3
1-509-427-XX
Voltage Selector (CN901)
2-832-007-00
Insulator
2-832-006-00
Insulator
PS 2.6 x 10
Lug 3
Transistor, 2SC867 (Q903)
3-701-422-00
Spacer, mica
Heat Sink
Transistor, 2SD291 (Q901)
2-825-006-00
Spacer, mica
PS 3 x 5
PS 3 x 10
2-832-005-00
Insulator
1-536-401-XX
Terminal Strip, 1L1
Lug 4
Transistor, 2SD291 (Q902)
Lug 3
2-832-007-00
Insulator
PS 2.6 x 10
Transistor, 2SC867 (Q904)
3-701-422-00
Spacer, mica
Insulator
P 3 x 6
Thrust Plate, capstan
0-027-040-00
Washer, thrust
PSW 3 x 6
Bracket, circuit board
P 3 x 6
Printed Circuit Board, terminal
PSW 3 x 6
PSW 3 x 6
Retainer, circuit board
Complete Circuit Board, system control
Reinforcement
Plate, side; R
PS 3 x 6
PSW 3 x 6
Chassis Ass'y
3-534-191-00
Cushion A, reel panel
PS 4 x 8
PS 3 x 6
PS 4 x 8
3-534-318-00
Cushion B, reel panel
Bracket B, reel panel

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

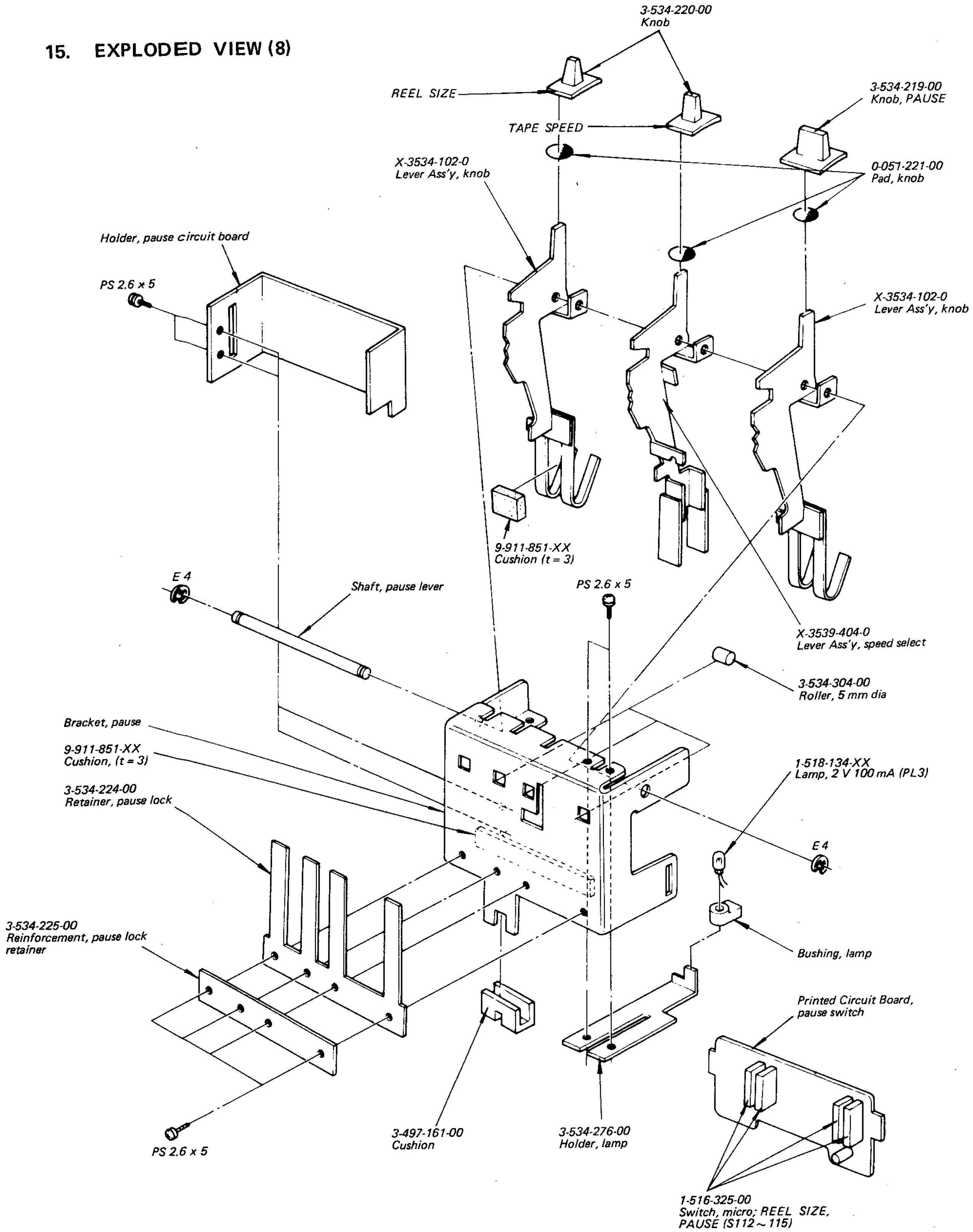
14. EXPLODED VIEW (7)


8-832-624-21
Motor, capstan; IC-624G (M3)
Shield, capstan motor
1-452-072-00
Ring, magnet
3-532-032-00
Holder
PSW 3 x 6
PSW 4 x 8
X-3534-140-0
Coil Ass'y, frequency generator
3-532-029-00
Support, coil
Screw, 3 x 4; hexagon socket
8-832-638-05
Motor, supply reel; IC-638R (M1)
1-117-036-22
Capacitor, 1.5 µF + 0.5 µF 250 V; metalized paper (C905)
P 3 x 4
1-121-004-00
Capacitor, 220 µF 160 V; elect (C902)
P 3 x 6
PSW 4 x 8
1-442-414-00
Transformer, power (T2)
PSW 4 x 8
1-117-110-11
Capacitor, 10 µF 150 V; metalized paper (C903)
P 3 x 4
8-832-638-05
Motor, take up; IC-638R (M2)
1-123-094-31
Resistor, 100 Ω adjustable (R902)
1-223-101-11
Resistor, 820 Ω; adjustable (R901)
1-442-415-00
Transformer, power (T1)
P 4 x 8
P 4 x 8
Bracket, transformer
P 3 x 6
Holder, resistor
N 3
P 3 x 6
1-117-110-11
Capacitor, 10 µF 150 V; metalized paper (C904)
P 3 x 6
Holder, resistor
N 3
Printed Circuit Board, filter
PSW 3 x 6
1-121-004-11
Capacitor, 220 µF 160 V; elect (C1202)
PSW 4 x 10
PSW 4 x 12
PSW 4 x 10

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

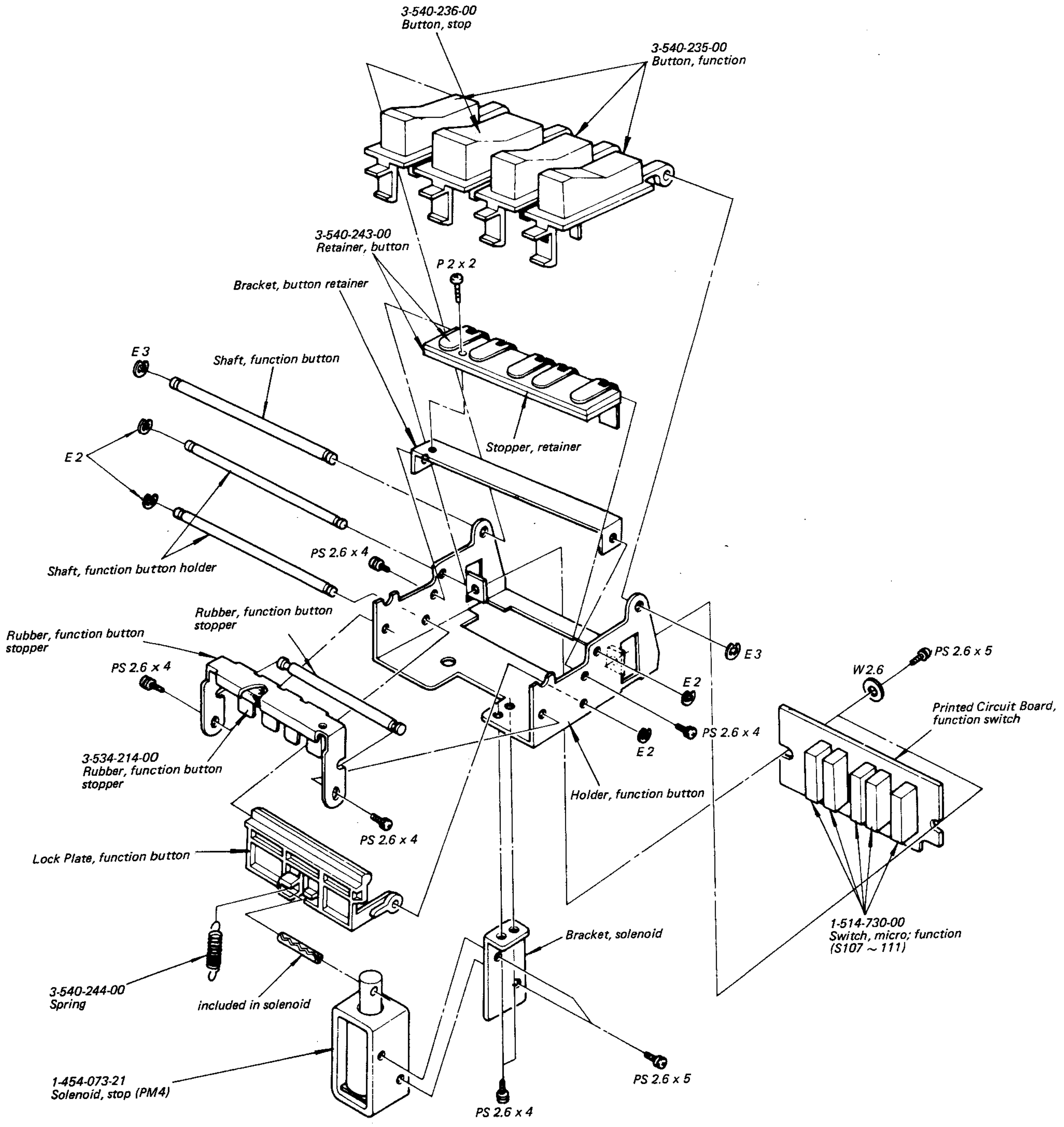
15. EXPLODED VIEW (8)


3-534-220-00
Knob
REEL SIZE
TAPE SPEED
3-534-219-00
Knob, PAUSE
X-3534-102-0
Lever Ass'y, knob
0-051-221-00
Pad, knob
Holder, pause circuit board
PS 2.6 x 5
X-3534-102-0
Lever Ass'y, knob
9-911-851-XX
Cushion (t = 3)
E 4
Shaft, pause lever
PS 2.6 x 5
X-3539-404-0
Lever Ass'y, speed select
3-534-304-00
Roller, 5 mm dia
Bracket, pause
9-911-851-XX
Cushion, (t = 3)
3-534-224-00
Retainer, pause lock
1-518-134-XX
Lamp, 2 V 100 mA (PL3)
E 4
3-534-225-00
Reinforcement, pause lock retainer
Bushing, lamp
Printed Circuit Board, pause switch
PS 2.6 x 5
3-497-161-00
Cushion
3-534-276-00
Holder, lamp
1-516-325-00
Switch, micro; REEL SIZE, PAUSE (S112 ~ 115)

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

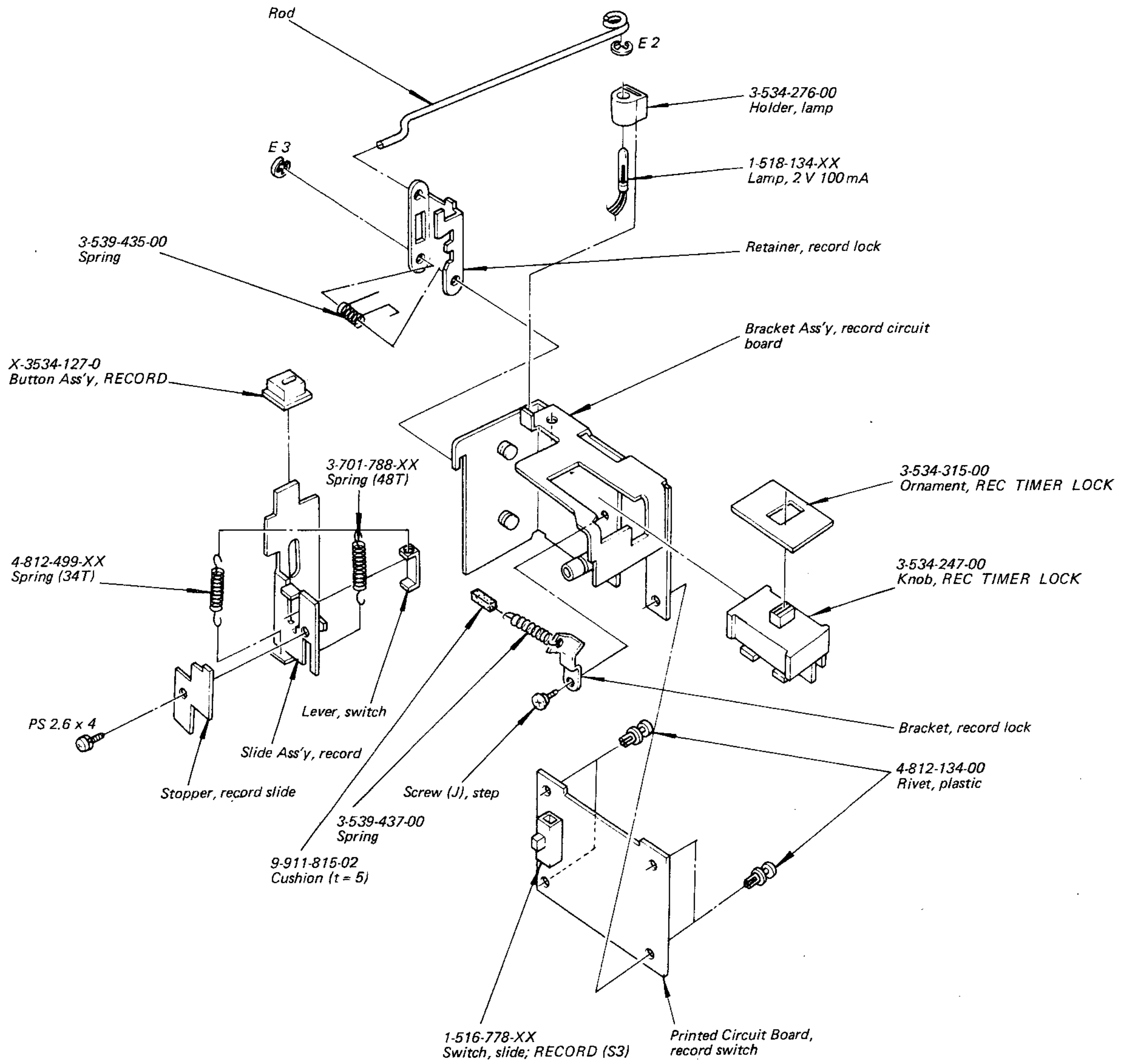
16. EXPLODED VIEW (9)


3-540-236-00
Button, stop
3-540-235-00
Button, function
3-540-243-00
Retainer, button
P 2 x 2
Bracket, button retainer
E 3
Shaft, function button
Stopper, retainer
E 2
Shaft, function button holder
PS 2.6 x 4
Rubber, function button stopper
Rubber, function button stopper
PS 2.6 x 4
E 3
E 2
W2.6
PS 2.6 x 5
Printed Circuit Board, function switch
PS 2.6 x 4
E 2
3-534-214-00
Rubber, function button stopper
Holder, function button
PS 2.6 x 4
Lock Plate, function button
Bracket, solenoid
1-514-730-00
Switch, micro; function
(S107 ~ 111)
3-540-244-00
Spring
included in solenoid
1-454-073-21
Solenoid, stop (PM4)
PS 2.6 x 5
PS 2.6 x 4

Note:

- ○ Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- ○ All screws are Phillips (cross recess) type unless otherwise noted.
  (–) = slotted head

17. EXPLODED VIEW (10)


Rod
E 2
3-534-276-00
Holder, lamp
E 3
1-518-134-XX
Lamp, 2 V 100 mA
3-539-435-00
Spring
Retainer, record lock
Bracket Ass'y, record circuit board
X-3534-127-0
Button Ass'y, RECORD
3-701-788-XX
Spring (48T)
3-534-315-00
Ornament, REC TIMER LOCK
4-812-499-XX
Spring (34T)
3-534-247-00
Knob, REC TIMER LOCK
Lever, switch
Bracket, record lock
PS 2.6 x 4
Slide Ass'y, record
4-812-134-00
Rivet, plastic
Stopper, record slide
Screw (J), step
3-539-437-00
Spring
9-911-815-02
Cushion (t = 5)
1-516-778-XX
Switch, slide; RECORD (S3)
Printed Circuit Board, record switch

- Items with no part number and/or no description are not stocked because they are seldom required for routine service.
- All screws are Phillips (cross recess) type unless otherwise noted. (–) = slotted head
- (□□T) shows the number of coils in spring.

18. ELECTRICAL PARTS LIST

Ref. No.	Part No.	Description
SEMICONDUCTORS		
Record Amp (Front) Section		
Q101, 301		Transistor 2SC632A
Q102 ~ 111 Q302 ~ 311		Transistor 2SC634A
D101, 301		Diode 1S2076
IC101, 301		IC TA7122AP
Record Amp (Back) Section		
Q501, 701		Transistor 2SC632A
Q502 ~ 511 Q702 ~ 711		Transistor 2SC634A
D501, 701		Diode 1S2076
IC501, 701		IC TA7122AP
Playback EQ Section		
Q112, 312 Q512, 712		Transistor 2SK43
Q113, 313 Q513, 713		Transistor 2SC632A
Q114, 314 Q514, 714		Transistor 2SC634A
Line Amp Section		
Q115, 315, 515, 715 Q116, 316, 516, 716 Q117, 317, 517, 717		Transistor 2SC634A
D102, 302, 502, 702 D103, 303, 503, 703		Diode 1T22
IC103, 303 IC503, 703		IC TA7122AP
Bias Osc Section		
Q501, 502		Transistor 2SC1475
Playback Level Control Section		
Q118, 318 Q119, 319 Q518, 718 Q519, 719		Transistor 2SC634A
D104, 304 D504, 704 D105, 305 D505, 705		Diode 1T40
Tension Regulator Section		
Q701 ~ 713		Transistor 2SC634A
Q714		Transistor 2SC1384
D701, 702		Diode 1T40
D703		Diode MZ08
D704		Diode MZ12
D705, 706		Diode 1T22
D707 ~ 710		Diode 10D2
System Control Section		
Q801 ~ 811		Transistor 2SC634A
Q812		Transistor 2SC1124
D801, 802		Diode 10D2
D803		Diode MZ08
D804, 805		Diode 1T40
D806, 807		Diode 10D2
D808		Diode 1T40
D809, 810		Diode 1T22
D811 ~ 813 D815 ~ 817		Diode 10D2
Chassis Section		
Q901, 902		Transistor 2SD291
Q903, 904		Transistor 2SC867
D902, 903		Diode 10D2
Torque Section		
Q1001, 1002		Transistor 2SC634A
D1001, 1002		Diode 10D2
D1003 ~ 1006		Diode 1T40
Sync Section		
D501		Diode 1T40
D502		Diode 10E2

Ref. No.	Part No.	Description	
D503		Diode	1T40
IC102, 302 IC502, 702		IC	TA7122AP

Tape Select Switch Section

Ref. No.	Part No.	Description	
D503, 504		Diode	1T40

Servo Amp Section

Ref. No.	Part No.	Description	
D601 ~ 605		Diode	10D2
IC601		IC	CX032B

Function Switch Section

Ref. No.	Part No.	Description	
D901		Diode	10D2

Pause Switch Section

Ref. No.	Part No.	Description	
D904		Diode	10D2
Th701	1-800-204-00	Thermistor	S-10 k

Filter Section

Ref. No.	Part No.	Description	
D1201		Diode	10D2

COILS

Ref. No.	Part No.	Description	
L101, 301 L501, 701	1-407-519-00	8 μH	microinductor
L102, 302 L502, 702	1-407-269-00	2.2 mH	variable inductor
L103, 303 L503, 703	1-407-270-00	3.3 mH	variable inductor
L104, 304 L504, 704	1-407-290-00	10 mH	variable inductor
L105, 305 L505, 705	1-407-173-00	220 μH	microinductor
L201, 401 L601, 801	1-407-206-XX	10 mH	microinductor
L202, 402 L602, 802	1-407-561-00	33 mH	microinductor
L901	1-407-270-00	3.3 mH	variable inductor
L902, 903	1-407-269-00	2.2 mH	variable inductor
L904	1-407-270-00	3.3 mH	variable inductor
L905	1-407-198-XX	2.2 mH	microinductor

TRANSFORMERS

Ref. No.	Part No.	Description
T1	1-442-415-00	Power
T2	1-442-414-00	Power
T201, 401 T601, 801	1-427-270-XX	Output
T901	1-433-171-00	Bias Osc

CAPACITORS

All capacitors are in μF and ceramic type unless otherwise indicated. 50 or less working volts are omitted except for electrolytic type. (elect = electrolytic, p = μμF)

Record Amp (Front) & Record Amp (Back) Section

Ref. No.	Part No.	Description		
C101, 301 C501, 701	1-121-398-11	10	25 V	elect
C102, 302 C502, 702	1-131-206-11	3.3	25 V	elect
C103, 303 C503, 703	1-102-107-11	120 p		
C104, 304	1-108-825-12	0.001		mylar
C504, 704	1-105-661-12	0.001		mylar
C105, 305 C505, 705	1-121-651-11	10	16 V	elect
C106, 306 C506, 706	1-121-398-11	10	25 V	elect
C107, 307 C507, 707	1-102-106-11	100 p		
C108, 308 C508, 708	1-121-391-11	1	50 V	elect
C109, 309 C509, 709	1-121-422-11	220	25 V	elect
C110, 310 C510, 710	1-121-748-11	10	25 V	elect
C111, 311 C511, 711	1-108-825-12	0.001		mylar
C112, 312 C512, 712	1-121-414-11	100	10 V	elect
C113, 313 C513, 713	1-102-969-11	33 p		
C114, 314 C514, 714	1-101-885-11	56 p		
C115, 315 C515, 715	1-121-420-11	220	10 V	elect
C116, 316 C516, 716	1-123-050-11	2.2	50 V	elect
C117, 317 C517, 717	1-108-833-11	0.0047		mylar
C118, 318 C518, 718	1-121-651-11	10	16 V	elect
C119, 319 C519, 719	1-108-825-11	0.001		mylar
C120, 320 C520, 720	1-102-956-11	15 p		
C121, 321 C521, 721	1-102-107-11	120 p		
C122, 322 C522, 722	1-121-409-11	47	16 V	elect
C123, 323 C523, 723	1-121-391-11	1	50 V	elect
C124, 324 C524, 724	1-121-398-11	10	25 V	elect
C125, 325 C525, 725	1-121-414-11	100	10 V	elect
C126, 326 C526, 726	1-108-795-12	0.0018		mylar
C128, 328 C528, 728	1-107-004-11	100 p	500 V	silvered mica
C129, 329 C529, 729	1-108-840-12	0.018		mylar
C130, 330 C530, 730	1-108-836-12	0.0082		mylar
C131, 331 C531, 731	1-105-518-12	0.027		mylar
C132, 332 C532, 732	1-105-514-12	0.012		mylar
C133, 134 C135, 136	1-121-651-11	10	16 V	elect

Playback EQ Section

Ref. No.	Part No.	Description		
C161, 361 C561, 761	1-121-404-11	33	25 V	elect
C162, 362 C562, 762	1-107-115-11	22 p	50 V	silvered mica
C163, 363 C563, 763	1-123-055-11	47	16 V	elect
C164, 364 C564, 764	1-102-955-11	12 p		
C165, 365 C565, 765	1-102-115-11	560 p		
C166, 366 C566, 766	1-121-415-11	100	16 V	elect
C167, 367 C567, 767	1-101-881-11	47 p		
C168, 368 C568, 768	1-108-808-12	0.022		mylar
C169, 369 C569, 769	1-121-409-11	47	16 V	elect
C170, 370 C570, 770	1-121-748-11	10	25 V	elect
C171	1-108-825-12	0.001		mylar

Sync Section

Ref. No.	Part No.	Description		
C181, 381 C581, 781	1-121-398-11	10	25 V	elect
C182, 382 C582, 782	1-131-236-11	1	25 V	solid tantalum
C183, 383 C583, 783	1-105-687-12	0.15		mylar
C184, 384 C584, 784	1-102-107-11	120 p		
C185, 385 C585, 785	1-108-827-12	0.0015		mylar
C186, 386 C586, 786	1-102-113-11	390 p		
C187, 387 C587, 787	1-121-748-11	10	25 V	elect
C188, 388 C588, 788	1-108-829-12	0.0022		mylar
C901	1-121-388-11	1000	35 V	elect
C902	1-121-651-11	10	16 V	elect
C903	1-121-652-11	33	35 V	elect

Playback Level Control Section

Ref. No.	Part No.	Description		
C191	1-121-651-11	10	16 V	elect

Line Amp Section

Ref. No.	Part No.	Description		
C201, 401 C601, 801	1-102-106-11	100 p		
C202, 402 C602, 802	1-102-968-11	27 p		
C203, 403 C603, 803	1-102-110-11	220 p		
C204, 404 C604, 804	1-121-392-11	3.3	25 V	elect
C205, 405 C605, 805	1-121-402-11	33	10 V	elect
C206, 406 C606, 806	1-108-825-12	0.001		mylar
C207, 407 C607, 807	1-102-106-11	100 p		
C208, 408 C608, 808	1-121-398-11	10	25 V	elect
C209, 409 C609, 809	1-121-357-11	100	35 V	elect
C210, 410 C610, 810	1-121-395-11	4.7	25 V	elect
C211, 411 C611, 811	1-121-398-11	10	25 V	elect
C212, 412 C612, 812	1-121-392-11	3.3	25 V	elect
C213, 413 C214, 414 C613, 813 C614, 814	1-121-398-11	10	25 V	elect

Servo Amp Section

Ref. No.	Part No.	Description		
C601	1-121-935-11	100	25 V	elect
C602, 603	1-121-398-11	10	25 V	elect
C604	1-105-661-12	0.001		mylar
C605	1-105-673-12	0.01		mylar
C606	1-106-677-12	0.022		mylar
C607	1-108-550-11	0.082		mylar
C608	1-121-409-11	47	16 V	elect
C609, 610	1-131-197-11	3.3	16 V	solid tantalum
C611	1-121-900-11	4.7	250 V	elect
C612	1-105-761-12	0.047	200 V	mylar

Tension Regulator Section

Ref. No.	Part No.	Description		
C701	1-105-665-12	0.0022		mylar
C702	1-105-501-12	0.001		mylar
C703	1-105-529-12	0.22		mylar
C704	1-131-215-11	1	35 V	solid tantalum
C705	1-131-238-11	10	25 V	solid tantalum
C706	1-131-217-11	2.2	35 V	solid tantalum
C707	1-131-219-11	4.7	35 V	solid tantalum
C708	1-105-725-12	0.1	100 V	mylar

System Control Section

Ref. No.	Part No.	Description		
C801	1-121-983-11	470	50 V	elect
C802	1-121-411-11	47	50 V	elect
C803	1-121-810-11	470	50 V	elect
C804	1-121-357-11	100	35 V	elect
C805	1-121-388-11	1000	35 V	elect
C806	1-121-980-11	100	6.3 V	elect
C807	1-121-388-11	1000	35 V	elect
C808	1-121-954-11	4.7	50 V	elect
C809	1-121-651-11	10	16 V	elect
C810	1-121-980-11	100	6.3 V	elect
C811	1-121-983-11	470	50 V	elect
C812	1-121-662-11	22	35 V	elect
C813, 814	1-113-072-11	1	220 V	metalized paper
C815	1-121-398-11	10	25 V	elect
C816	1-105-919-12	0.033	200 V	mylar
C817	1-105-821-12	0.001		mylar
C818	1-107-179-11	270 p	500 V	silvered mica

Bias Osc Section

Ref. No.	Part No.	Description		
C904 ~ 907	1-141-010-XX	20 p ~ 120 p		trimmer
C908, 909	1-129-710-11	0.0047	630 V	plastic
C910	1-129-706-11	0.0022	630 V	plastic

Ref. No.	Part No.	Description		
C911	1-105-672-12	0.0082		mylar
C912, 913	1-108-825-11	0.001		mylar
C914	1-108-830-11	0.0027		mylar
C915	1-121-653-11	47	35 V	elect

Record Switch Section

C916	1-105-919-12	0.033	200 V	mylar

Pause Switch Section

C901	1-121-391-11	1	50 V	elect

Torque Section

C1001,1002	1-131-239-11	6.8	35 V	solid tantalum
C1003	1-113-072-11	1	220 V	metalized paper
C1201	1-121-357-11	100	35 V	elect
C1202	1-121-004-11	220	160 V	elect

Chassis Section

C133, 333 C533, 733	1-101-455-11	0.001		
C902	1-121-004-00	220	160 V	elect
C903, 904	1-117-100-11	10	150 V	metalized paper
C905	1-117-036-22	1.5 + 0.5	250 V	metalized paper
C909 ~ 911	1-107-123-11	47 p	50 V	silvered mica

RESISTORS

All resistors are in Ω. Regular type ¼W carbon and composition resistors are omitted.
Check schematic diagram for resistance values.
(k = 1000)

Record Amp (Front) & Record Amp (Back) Section

R110, 310 R510, 710	1-224-447-21	20 k (A)		variable; MIC
R112, 312 R512, 712	1-224-447-00	20 k (A)		variable; LINE
R126, 326 R526, 726	1-224-646-XX	22 k		adjustable
R129, 329 R529, 729	1-224-646-XX	22 k		adjustable

Playback EQ Section

R175, 375 R575, 775	1-224-644-XX	5 k		adjustable
R176, 376 R576, 776	1-224-646-XX	20 k		adjustable

Sync Section

R188, 388 R588, 788	1-224-646-XX	20 k		adjustable

Playback Level Control Section

R196, 396 R596, 796	1-224-338-00	20 k (B), 2-gang; variable; PB LEVEL		

Level Meter CAL. Section

R210, 410 R610, 710	1-224-643-XX	2.2 k		adjustable

Servo Amp Section

R602	1-244-867-11	560	½W	
R611	1-244-801-11	1	½W	
R612	1-206-717-11	470	3W	metal oxide
R616	1-224-645-XX	10 k		adjustable
R618	1-224-646-XX	22 k		adjustable

Tension Regulator Section

R717	1-224-644-XX	4.7 k		adjustable
R731	1-224-646-XX	22 k		adjustable
R733	1-244-867-11	560	½W	
R734	1-244-801-11	1	½W	
R736, 737	1-222-778-00	220 k		adjustable

System Control Section

R801	1-207-992-11	180	7W	wirewound
R807	1-224-645-XX	10 k		adjustable
R814	1-206-477-11	39	½W	metal oxide
R829	1-244-877-11	1.5 k	½W	

Ref. No.	*Part No.*	*Description*		
Chassis Section				
R901	1-223-101-11	820		adjustable
R902	1-223-094-31	100		adjustable
PAN POT Section				
R901, 907	1-224-382-00	5 k (B)		variable; PAN POT
R902, 908	1-224-382-00	5 k (B)		variable; PAN POT
Tape Select Switch Section				
R923	1-217-440-11	33	½W	fusible
Bias Osc Section				
R928	1-217-430-11	4.7	½W	fusible
Torque Section				
R1001,1002	1-206-485-11	82	2W	metal oxide
R1004	1-217-343-11	68	7W	wirewound
Filter Section				
R1201	1-217-387-11	10		fusible
R1202	1-217-399-11	100		fusible
R1203	1-217-477-11	4.7	1W	fusible
SWITCHES				
S1	1-516-783-XX	Slide; PAN POT		
S2	1-516-621-00	Slide, EQ (TAPE SELECT)		
S3	1-516-778-XX	Slide, RECORD		
S4	1-516-621-00	Slide, BIAS (TAPE SELECT)		
S102, 202 S302, 402	1-516-621-00	Slide, MONITOR		
S103, 203 S303, 403	1-516-620-00	Slide, record mode		
S104, 204 S304, 404	1-516-620-00	Slide, HEADPHONE		
S107, 108	1-514-730-00	Micro, rewind		
S109	1-514-730-00	Micro, stop		
S110	1-514-730-00	Micro, playback		
S111	1-514-730-00	Micro, fast-forward		
S112, 114	1-516-325-00	Micro, REEL SIZE		
S113, 115	1-516-325-00	Micro, PAUSE		
S116, 117	1-516-309-00	Micro, tension arm (R)		
S118, 119	1-516-309-00	Micro, tension arm (L)		
S120	1-516-309-00	Micro, PM1 drive		
S121	1-516-309-00	Micro, PM3 drive		
S122	1-516-181-00	Push, POWER		
S501	1-516-784-00	Slide, TAPE SPEED		
JACKS				
J1 ~ 4	1-507-476-XX	Phone, MIC		
J5, 6	1-507-476-XX	Binaural, HEADPHONE		
CNJ1 ~ 8	1-507-365-XX	4 p phono, LINE IN/LINE OUT		
MISCELLANEOUS				
CN901	1-509-427-XX	Voltage Selector		
CNP901	1-509-062-31	Connector, AC INLET		
CNP902	1-526-528-51	Connector, AC OUTPUT		
CP801~803 CP805~806	1-231-057-31	Encapsulated Component, C-R; 0.033 µF + 120 Ω, 500 V		
CP903~906	1-101-534-31	Encapsulated Component, C-R; 0.1 µF + 120 Ω, 500 V		
EH101~401	8-825-617-00	Head, erase; EF137-2904		
F1	1-532-414-00	Fuse, 1 A		
M1	8-832-638-05	Motor, supply reel; IC-638R		
M2	8-832-638-05	Motor, take-up reel; IC-638R		
M3	8-832-624-21	Motor, capstan; IC-624G		
ME1 ~ 4	1-520-189-00	Meter, VU		
PH101, 301 PH501, 701	8-829-342-00	Head, playback; PP138-4204		
PL3, 5 ~ 10	1-518-134-XX	Lamp, 2 V 100 mA		
PM1	1-454-074-00	Solenoid, pinch roller (L)		
PM2	1-454-074-00	Solenoid, pinch roller (R)		
PM3	1-454-074-00	Solenoid, brake		
PM4	1-454-073-21	Solenoid, stop		
RH101, 301 RH501, 701	8-827-729-40	Head, record; RP138-2904		

Ref. No.	*Part No.*	*Description*
RY801, 802 RY1001 RY1002	1-515-127-XX	Relay
	1-452-072-00	Ring, magnet

Ref. No.	*Part No.*	*Description*
	1-508-702-00	Pin
	1-533-048-00	Holder, fuse
	1-536-401-XX	Terminal Strip, 1L1
	1-536-401-XX	Terminal Strip, 3L2

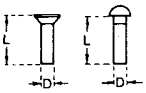
ACCESSORIES

Part No.	*Description*
X-3141-019-0	Adaptor Ass'y, 10" reel; RAD-10
X-3534-138-0	Reel Ass'y, R-11B
X-3701-018-0	Cleaner Ass'y, head
1-534-049-51	Cord, connection; RK-74

Part No.	*Description*
1-551-114-11	Cord, power
3-780-501-61	Manual, instruction
8-918-222-11	Tape, demonstration

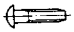
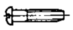
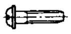
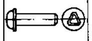
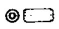
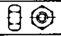
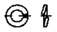
HARDWARE NOMENCLATURE

Screw: – P 3 x 10
- *L: Length in mm*
- *D: Diameter in mm*
- *Type of head*
- *Indicated slotted-head only. Unless otherwise indicated, it means cross-recessed head (Phillips type).*



Nut, Washer, Retaining ring: N 3
- *Diameter of usable screw or shaft*
- *Reference designation*

Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

Sony Corporation

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CORRECTION

For TC-788-4 Service Manual

On Page 23:

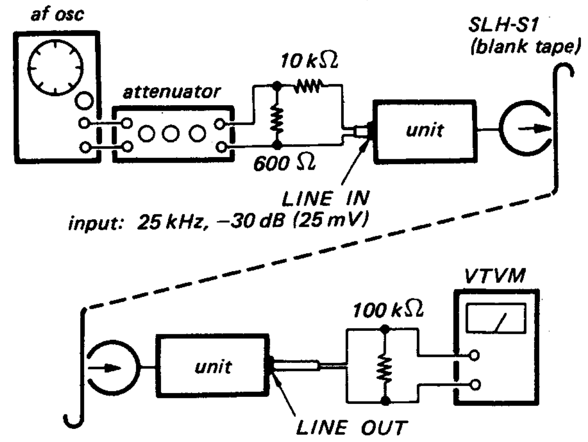
15. Dummy Coil Adjustment

Settings:

TAPE SPEED switch: 38 cm, 15
REC MODE switch: REC
REC LEVEL control
  MIC: MIN
  LINE: normal record setting (See page 15.)

Procedure:

Mode: record


af osc
attenuator
10 kΩ
600 Ω
unit
SLH-S1
(blank tape)
LINE IN
input: 25 kHz, −30 dB (25 mV)
VTVM
100 kΩ
unit
LINE OUT

Step	REC MODE switch	Input Signal to	Connect VTVM to	Adjust	Remarks
1	all channel: REC	FL	FL	——	Memorize the VTVM reading.
2	FR only: PB	FL	FL	L902	Adjust for the same reading as in Step 1.
3	BL only: PB	FL	FL	L903	
4	BR only: PB	FL	FL	L904	
5	FL only: PB	FR	FR	L901	